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SURVEYOR AND CIVIL ENGINEER.

BY

MAJOR-GENERAL J. T. BOILEAU, F.R.S.,
ROYAL (BENGAL) ENGINEERS.

TENTH EDITION.
(REVISED AND CORRECTED.)

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PREFACE TO THE SEVENTH EDITION.

The first edition of the Traverse Tables, forming the principal portion of this work, was prepared chiefly for the use of the officers of the Revenue Survey in India, as a substitute for the method of taking out traverses by logarithms; operations with these tables being more simple and free from liability to error, than the former method of working.

The utility of the traverse table, and its various applications, both in navigation and geodesic operations, have long been known, and most works on the former subject contain a traverse table for such angles and distances as are sufficient for all practical purposes at sea. General traverse tables have also been published in Dr Hutton's "Mathematical Tables," in Mackay's valuable work on the "Method of determining the Longitude," and by others, but only to degrees and quarter points: one table only, that of Mr. John Gale, published as an appendix to "Adams's Geometrical and Geographical Essay," in 1791, appears to have been exclusively intended for the use of the surveyor. This table extends to every fifteen minutes of the quadrant, to three places of decimals, and to all distances from 1 to 100. The work is out of print, and although a considerable saving of time is effected in working traverses by Mr. Gale's arrangement, it was not considered desirable to adopt a similar plan in this work, as such a course would have swelled the tables much beyond their present size, and have increased the expense in a like proportion.

To insure accuracy in these tables, the first which have been extended to single minutes, both the latitudes and departures have been computed to seven places of decimals, five places being retained as sufficient for general use. Several minor tables, useful in surveying, have been added, and a table of the length of each degree of latitude between the equator and the poles, and of the corresponding degree of longitude, has been introduced, which will be found useful in determining the geographical position of places from their traverses, and in the construction of maps.

The first typographical edition of these tables very speedily proved, as was anticipated, a valuable acquisition to the surveyor and civil engineer. The work having been exhausted by sale and presentation, the publication of a second edition was undertaken in 1872, and a third edition in 1875, in which all errors in the original edition, which had been discovered by personal examination or communicated to the author, were corrected, and the intimation of any inaccuracies which might still be found to exist was solicited. *

The author's best thanks were tendered to the following gentlemen for the kind aid rendered by them in their desire for the perfection of the tables, viz., to Octavio Pico, Esq., Surveyor, Buenos Ayres; to F. Franklin, Esq., City Surveyor's Office, Baltimore; and to John W. Deering, Esq., Surveyor-General's Office, Sydney. One of the above gentlemen remarked that, if surveyors, &c., in all parts of the world send in discovered errata, the tables would be perfectly free from error or misprint; and the author, in conclusion, earnestly requested the communication of any errors which might still be found to exist.

Another, the seventh Edition of these Tables having become necessary, the Author avails himself of the opportunity of tendering his warm thanks to Henry Morres, Esq., Inspecting Surveyor, Sandhurst, Victoria, for having been at the pains of making a complete examination of the entire Table-work and of comparing the same with manuscript computed under his own direction for the intended publication of a similar work, which was however courteously given up by him on becoming acquainted with the existence of the present work. A manuscript copy of all the errors discovered was not only fully and freely communicated to the Author but a list of these errors was printed and circulated *gratis* in Australia. Every error pointed out by Mr. Morres has been checked by re-computation, and has been corrected in the present Edition. The introduction has been carefully revised, and it is hoped therefore that this Edition may, by the kind aid noticed and acknowledged above, be now found to be almost, if not altogether, free from error.

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* Since 1875 several other editions have been issued, in most of which further corrections have been made.

NOTICE.

It has been brought to the knowledge of the author of these Tables, that an edition of the work, bearing an exact copy of the title-page of the edition of 1839, and designated "*Traverse Tables, &c., by the late Col. J. T. Boileau, 3rd Edition, by H. F. Gilby,*[*] *Civil Engineering College,*" was published some years ago, by Messrs. Higginbotham and Co., of Madras, and was up to a late date advertised for sale in their circulars. This very irregular proceeding was carried out without the sanction or authority of the author, and without any communication having been made with him on the subject, and was quite unnecessary as at the time the first reprint was made, there was still a supply of the original edition for sale with the publishers.

The friends of MAJOR-GENERAL J. T. BOILEAU, will be glad to know that he is still in the land of the living, and as he has spared no pains to make this edition of his tables in every sense worthy of confidence, he asks those who may require to use his book, to order the work through his publishers, Messrs. W. H. Allen and Co., No. 13, Waterloo Place, London, S.W., or through their agents abroad.

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[*] Mr. Gilby is not answerable for the misrepresentation regarding the death of the author. This was a gratuitous assumption of the Publishers, for which they alone are responsible.

London, August, 1876.

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INTRODUCTION.

A Traverse may be defined as a circuitous route performed on leaving any place on the earth's surface, by stages, in different directions, and of various lengths, with a view of arriving at any other place situated in any direction with reference to the former, and at any distance therefrom which cannot be reached in the direction of the shortest line connecting them. The angles which the stages or station lines form with the meridian are called in navigation *courses,* and in geodesic operations *bearings,* and the lines themselves *distances;* the quantity of northing or southing made in each *distance* is called the *difference* of *latitude,* and the amount of easting or westing is termed the *departure.*

When the course or bearing corresponds with the meridian, or with the perpendicular to it, there will in the latter case be no difference of latitude, and in the former no departure, and the distance measured will itself express the amount of northing or southing, or of easting or westing due to the change of position. When, however, the course or bearing does not correspond with the meridian or with the perpendicular to it, there will be for every distance measured a certain corresponding change both in latitude and longitude (or departure); and as these will with reference to their particular distance answer the condition of our definition, they may with propriety be termed the *traverses of the distances,* which in fact they usually are in practice. The differences of latitude, and the departures may easily be calculated, the course or bearing and distance being given, or may be found by inspection by certain tables prepared for that purpose.

Tables which show by inspection the amount of the difference of latitude, and the departure for any bearing and distance are termed *Traverse tables,* because, by their means, the resolution of traverses is effected without the necessity of having recourse to calculation, and they are of very general use in land and maritime surveys, in navigation, and in the construction of maps.

It has been shown by various writers, that when the distance measured on a sphere is a portion of a rhumb line, whether direct or oblique, *i.e.* when it either coincides with a parallel of latitude, or when it crosses several meridians obliquely, and forms equal angles with them all, the difference of longitude may in the former case be considered as the base of a right angle plane triangle, and in the latter case the corresponding amounts of latitude and departure, and the distance itself, may be accurately represented by the three sides of a right angled plane triangle. Now, as a ship steered by a compass, and sailing on any course, actually moves in a rhumb line, (the difference due to the variation of the compass and to leeway not being taken into consideration,) it follows that "all cases of sailing whatever may be resolved through the medium of right angled" (plane) "triangles."* There exist, however, so many useful works on navigation, wherein the application of the traverse table to nautical purposes is fully explained, that it is not intended in the following pages to notice the subject further, but to confine such remarks as may be made entirely to the application of the tables to geodesic operations.

As the lengths of the lines to which traverse tables are applied are when compared with the vast length of a great circle of the earth extremely small, and as within limited distances the surface of the earth differs little from a plane, the error arising from considering the distance measured, and the differences of latitude, and departures corresponding thereto as three sides of a right angled plane triangle is so trifling, that for all useful purposes it may be safely disregarded, for the earth being considered spherical, and the length of a degree on its surface taken at 365154·6 feet, the lengths in feet of the arcs of 10, 20, and 30 minutes, and of their corresponding chords will be as follows:

Length of arcs . .	10′=60859·10	20′=121718·2	30′=182577·3
Length of chords .	60859·05	121717·7	182576·3
Differences . .	0·05	0·5	1·0

that is, in a distance of 11½ miles the difference between the arc of a great circle of the earth and its chord is only 1-20th of a foot, or about 2-3rds of an inch; it is six inches in 23 miles, and one foot only in 34½ miles.

The difference between the latitude and departure considered as the two legs of a right angled spherical triangle, and as the base and perpendicular of a right angled plane triangle, may be seen, by an inspection of Table V., to be so small as not to deserve any notice in practice; for in surveying, measured lines seldom occur of more than 1-20th part the length of the distance, 364547 feet, assumed in the table, *i.e.*, from 2¾ to 3 miles, and these cannot be guaranteed to within any approximate limit of the same accuracy, as the corresponding spherical values are given by the resolution of a right angled plane triangle. No person measuring with a chain, the instrument used in the most accurate surveys not trigonometrical, would pretend to assure his measurements to 6 inches in 1¾ mile, or about 1 link in 137 chains, which is the greatest tabular error in latitude for this distance, and which in departure is less than half that amount.* As some persons might, however, be of opinion that the error is of sufficient importance to be allowed for, I have added two columns to the table, to show the fractional value of the error compared with the results obtained by the tables, the greatest of which exceeds the ten thousandth part of the result by a very small quantity only. In practice, as before stated, measured lines of this length never occur; and Table V. has been arranged to this distance for the sole purpose of showing the amount of error in very long lines. Table VI. shows that for small distances and with a mean bearing, the error is less in proportion than for long lines: thus the tabular error for 40′, or 46 miles, with a bearing 27° 45′, is in latitude—2·442 feet, which, if the ratio were the same, would for 05′ with the same bearing, make the error—·305 feet; but the actual tabular error in latitude for a distance 05′ or 5¾ miles, is only—·076 feet, or less than one-fourth of that deduced by proportion from the tabular error for 40′; in departure it is only one-fifth; and in neither case does it amount to one inch in 5 miles. In the greater bearings, though the error in latitude is somewhat larger, it is still sufficiently small to be neglected; for, taking the greatest bearing in Table V. or 85°, it will be found that the error in latitude for a distance 05′ or 5¾ miles, is less than one-third of an inch to one mile, and that in departure it is not three quarters of an inch in six miles, the numbers being as follows:

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* See Art. Navigation, vol. iii. Natural Philosophy, by the Society for promoting Useful Knowledge.

			Latitude.	Departure.
Bearing	85°			
Distance	05′	By Spher. Trigonom.	2647·648	30263 336
Miles	5·7536	By the Tables . .	2647·624	30263·278
Feet	30378·92	Tabular error	—·024	—·058

In both cases the tabular error is so small, that in short distances, and with any bearings, it may be safely said that the difference between the spherical co-ordinates, as deduced by the strict rules of mathematics, and by the resolution of a right angled plane triangle, is so small as in practice not to merit any attention.

The supposition, however, that the distance, latitude, and departure, the earth being considered spherical, form the three sides of a right angled spherical triangle delineated upon its surface, is not in fact strictly true, for though even in the elliptic theory the distance and the difference of latitude may be considered as arcs of a great circle, the departure is invariably the arc of a small circle, or parallel to the equator; but this fact, however true in theory, is one which will not affect the accuracy of our results in practice. Let us illustrate this by an example:

Taking the length of the equatorial degree of longitude as =365147 feet, and the 1st degree =365091·515 feet, the length also of a degree of latitude between the parallels 0° & 1°=362760 feet, as obtained by Mr. Baily's Formula, XLIII., deduced from the elliptic theory of the earth (see Table IV.), we may suppose the quadrilateral figure formed by the equatorial and 1st degrees of longitude, and by the degrees of latitude connecting their extremities to be divided by a diagonal or common hypotenuse into two right angled spherical triangles, and we may thence, with the equatorial degres of longitude and given degree of latitude, compute the length of the 1st degree of longitude by the rules of spherical trigonometry. The result obtained by this method will give the length of the 1st degree of longitude =365091·336 feet, whereas by Mr. Baily's Formula the length is found to be 365091·515 feet, the difference ·179 of a foot, or 2 inches and 1-7th in a distance of 69 miles, is a quantity which the most scrupulous practical man will not feel disposed to notice.

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* The errors are not computed for the *distances*, but for the *traverses*; if referred to the distances they would be still less than shown in the Table; but as it is the error in the results which requires correction, the columns of tabular multipliers have been added to show how this may be done

Surveys may be divided into

1st, Such as are carried on by spherical trigonometry.

2dly, Such as are conducted by the rules of plane trigonometry.

Such surveys as have for their object the measurement of the lengths of arcs on the earth's surface, or are undertaken to fix certain geographical points for the construction of the skeletons of large maps, *i.e.*, to ascertain their position in latitude, and in longitude with reference to an assumed 1st meridian, belong to the higher branch, or surveying by spherical trigonometry.

In the second branch, or surveying by plane trigonometry, may be classed all such as have for their object either to obtain an accurate plan of a limited portion of country with a view to the calculation of its area, the demarcation of certain boundary lines, as of estates, manors, parishes, townships, &c.; the representation of the varying features of the surface, as the extent of mountains, woods, lakes, rivers, roads, towns, villages, lines of coast, &c.; or the illustration of the details of any line of country through which it may be required to carry a road, canal, or the like.

A considerable acquaintance with the higher branches of mathematics is necessary for those who are entrusted with surveys of the first kind; but a sufficient degree of perfection may be obtained in the second kind of surveying by practice, and a moderate knowledge of the rules of plane trigonometry. It has been with a view of assisting the labours of those who may be employed in surveys of the latter description that the accompanying tables have been calculated; and I now propose to show how they may be applied in practice, premising that the reader is acquainted with the use of the theodolite and chain; *i.e.*, that he can observe an angle and measure a distance, into which two operations the field work of surveys may be resolved.

There are two descriptions of survey to which these tables are particularly applicable; viz., a boundary survey, of which the area is required, and a route survey, of which the general line, or the difference of latitude and longitude of its various points only, not its area, is sought: the former will by the tables prove or disprove itself; the latter can only be checked either by a set of astronomical observations, or by reverse operations.

The first part of each operation in the use of the tables being the reduction of an angle formed by the meeting of two lines, to the angle which either of them forms with the meridian, and thence with their lengths to deduce the values of the lines on the meridian and on a line perpendicular to it, it becomes necessary, before this can be done, to ascertain by observation the bearing of one line, whence that of all the others may be obtained; I shall show how this may be done after a few remarks on the manner in which angles are measured by and registered on the theodolite.

Let NO Fig. 1, represent any line in a survey, WO any other line intersecting the former in O—NOW will be the angle formed by their intersection, and O will be a *station;* let NESW represent the divided circle of the azimuth limb of a theodolite, the centre of which is made to coincide with O, and let the zero of the limb and vernier be adjusted to the line ON. Now, as the telescope moves horizontally on the centre of the azimuth limb, its opposite ends will describe proportional arcs, or will measure equal angles at opposite sides of the centre: *i.e.*, when the fore end of the telescope points from O to N, the eye-piece end will point from O to S, or it will differ 180° in position. When the fore end of the telescope is moved from the direction of the line ON to that of OW, or through the arc NW which subtends the angle NOW, the eye-piece end will have travelled through the corresponding arc SE, subtending the alternate equal angle SOE; and as one vernier is usually placed under the eye-piece of the telescope for the convenience of reading the angle registered upon the limb, the angle formed by the two lines NO, OW, and which is measured by the fore radius of the telescope from N to W is registered by the vernier corresponding to the back radius of the telescope from S to E.

Now as the observer follows the eye-piece end of the telescope and the vernier in its motion round the divided circle of the limb, he will in each separate position imagine himself placed at the extremity of one of the lines forming the angle to be measured, and looking towards the centre or their common point of intersection, instead of being in that point and looking towards the extremity; this circumstance, *i.e.*, the fact of all angles being registered and read on the opposite arc of the circle to that on which they are measured, and differing from them in notation, consequently by 180°, may, unless great care be taken, lead to error in the reduction of the registered angles to their relative bearings.

In most modern theodolites the divisions are numbered round the circle, from 0° to 360°, the zero, or 360°, being adjusted to the south end of the compass needle, and the numbers running round by the west (*i.e.* the left) to the north and east, until they close again on the south point (as in Fig. 1.) It is evident under this method of numbering the divisions, which is the most convenient for practice of any hitherto adopted, that when the vernier is adjusted to 360° or zero, the telescope which is supposed to be collimated accurately in the vertical plane passing through the zero of the vernier and centre of the instrument, points north, the instrument being adjusted in the plane of the meridian, and any distance measured on a line in a prolongation of the axis of the telescope forwards is a distance taken on a line in a direction from south towards the north, or towards 180° on the limb.* Similarly, when the angle registered is 90°, the observer will move in a direction due west, or towards 270° on the limb; so 180° by the vernier indicates a due south course, or towards 360° on the limb, and 270° a bearing due west, or towards 90° on the limb, in all cases differing 180°, as stated above; being 180° too small when the bearing registered by the vernier is less than 180°, and 180° in excess when the bearing is more than 180°. So also, when the angle indicated by the vernier is between 0° and 90°, the course is between north and east; from 90° and 180° it is between south and east; from 180° to 270° it is between south and west; and from 270° to 360° it is between north and west. See the divisions in Fig. 1.

If the theodolite were adjusted in the plane of the meridian each time it is set up, or at each station in a survey, we should obtain the true bearing of each line at each observation; but this operation is one of considerable nicety, and cannot be performed excepting by reference to some one or more of the heavenly bodies; it is usual therefore in practice to fix the instrument only occasionally in the plane of the meridian, and to observe the bearings of the first lines of the survey only, and the angles formed by the intersections of each two of the remaining station lines; the bearing of these lines may then be computed with great facility, the meridians being within limited distances considered parallel straight lines.

Let NS, Fig. 2, represent the meridian of the first station A of a boundary survey, and let it be required to find the bearing of the station lines AB, BC, &c., of the irregular figure A, B, C, D...A, in the order of the letters, (which is the direction that should always be taken, viz., keeping the boundary on the left hand.) Setting the theodolite up at the first station A, let it be accurately adjusted in the plane of the meridian, and observe the bearing of the first side AB; remove the instrument to ⊙ B, and observe both the inward and outward angle formed by the lines AB, BC: this is done by adjusting the instrument to the back station A, by turning the telescope round to the right, *i.e.*, the eye-piece and vernier to the left until the lines bisect the fore staff C, when the ***inward*** angle A B C will be registered on the limb of the instrument, and must be read off and noted down in the field-book; next by adjusting the instrument to the fore station C, and by turning the telescope (or vernier) as before, until the wires bisect the back staff A, the outward angle C B A will be registered on the limb of the instrument, and must be read off and entered in the field-book against the inward angle. All the remaining angles are to be observed in the same manner.

As the sum of the inward and outward angle at each station should together make up 360°, we have a ready method for checking the observation of every angle on the spot; there can be no excuse therefore in practice for an error in an observed angle, as any inaccuracy with such facility of check must be the consequence of neglect.

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* It is not necessary that the axis of the telescope should be collimated accurately with the zero of the vernier; the remarks in the text will apply equally to all theodolites, no matter what the inclination of the plane passing through the vernier and centre of the instrument, to that of the axis of the telescope, provided only that when the axis of the telescope is brought into the plane of the meridian, the zero of the vernier is adjusted to 360° on the limb, and that the divisions are numbered as I have supposed them to be.

Let lines $N^2\ S^2$, $N^3\ S^3$, &c., be now drawn through the several stations B, C, D, &c., parallel to NS, and they will by the hypothesis represent the meridians of those stations; they will pass through the point of intersection of each pair of lines, which may therefore be taken as the centre of the instrument, and used alike as the centre of measurement, both of the bearings of the lines, as of the angles which they form with each other.

Produce the line AB in the direction BA to *a*, and from A as a centre, describe the arc SN*a*, meeting the line BA produced in *a*. The bearing of the first side AB which has been observed, and is equal to the angle N A B, will be indicated by the theodolite by the equal and opposite angle SA*a*, or (the divisions being numbered from S. round to the W. or left) by the arc SN*a* as shown by the dotted, curved, arrow; this arc is =281° 40′, which is consequently the bearing of AB as registered on the limb of the theodolite; as the meridians drawn through all the stations are supposed to be parallel, the arc SN*a* may be transferred to the meridian $N^2\ S^2$ of ⊙ B, where taking the point B as a centre, it will represent the bearing of A B with the same accuracy as at A, and a bare inspection of the figure will show that the bearing of B C in the direction C B is equal to the bearing of A B (or the arc $S^2\ N^2\ a'$) added to the inward angle A B C; if, therefore, we subtract 180° from the sum of these two arcs, we shall obtain the bearing of the line B C in the direction *b*C, or BC, as required. Again, transferring this arc as above, to the meridian $N^3\ S^3$ of ⊙ C, and taking C as the centre; the bearing of the line C D in the direction D C is equal to the bearing of the preceding line B C or the arc $S^3\ b'$, added to the inward angle B C D, from which, if 180° be subtracted as before, the bearing of C D in the direction *c*D or C D which was required, will be obtained, and so on for all the other lines, excepting G H, the bearing of which, in the direction H G, is equal to the bearing of F G, or the arc $S^7 f'$ added to the inward angle F G H, or in the direction required *g*H, or G H, it is equal to the sum of these arcs increased by 180°. We obtain from the above a very simple expression for the bearing by the theodolite of any line in a series, viz.:

$$b = B + A \pm 180^\circ,$$

where *b* is the bearing of the line required, B that of the line preceding in the series, both as indicated by the instrument, and A the inward angle formed by the meeting of the two lines, which may be expressed by the following

Rule.—To the bearing by the theodolite of the line preceding that of which the bearing is sought, add the inward angle formed by these two lines and the sum of the two angles increased or diminished by 180°, according as they may be less than, or in excess of 180°, will be the bearing of the line in the direction required, as registered on the limb of the instrument.

It is necessary, however, in taking out the differences of latitude and departures corresponding to each line, to have not only the bearing by the theodolite of the line, but the reduced bearing, that is, the angle which it forms with the meridian counted from the north or south, towards the east or west; and this is obtained as follows:

Rule.—To obtain the reduced bearing when the bearing by the theodolite is

between 0° and 90°, or N.E., no reduction is necessary,
„ 90° and 180°, or S.E., subtract it from 180°,
„ 180° and 270°, or S.W., subtract 180° from it.
„ 270° and 360°, or N.W., subtract it from 360°.*

The following table exhibits at one view the results of the several operations in working a set of traverses, both for the proof of the boundary, the plotting of the map, or the computation of the area; it may be considered as divided into two principal parts: the first, from columns 1 to 10 inclusive, are preparatory, and form the ground-work upon which the results obtained for the practical application of the traverses depend; the remaining columns 11 to 23 inclusive, are the results so obtained; of the whole of the columns in the table, two only are the work of the field, viz., columns 2 and 6; the remainder are all deduced from them, and with the exception of the three last, and the areas, by addition and subtraction; the various processes in obtaining these results will now be severally explained.

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* An inspection of Fig. 1 will render these rules evident.

TABLE showing the Application of Traverses to the various Descriptions of Survey, and to the Computation of Areas.

Station or Distance.	Observed inward Angle.		These entries are reckoned from *starting* end of Distance.										Diff. of Lat. and Dep. of each Station referred to Meridian of first Station.				Depart. of each Station from Datum Merid.	Lines in Fig. 4.	Sums of Depart. of each pair of Stations from Datum Merid.	Corresp. Lines in Fig. 4.	Multplrs or Latitudes from Columns 7 and 8.		Lines in Fig. 4.	Products of Numbers in Columns 17 and 19.	
			Bearing on limb of Theodol.		Cardinal direction.	Reduced Bearing.		Distance measured.	Diff. of Lat. and Dep. for each. Dist.				Latitude.		Departure.		East.							South.	North.
									Latitude.		Departure.		N. or S.		E. or W.										
									North	South.	East.	West.													
	°	'	°	'		°	'	Ch lk.	Ch. lk.	Ch lk.				Ch. lks.	Ch. lks.		Ch. lks.		Ch. lks.		Ch. l.			Acr. dec.	Acr. dec
A	Obsd.	Bg.	281	40	N.W.	78	20	4.08	82 5			3,99·6					6.47 8	A*a*	8,96·0	A*a*+B*b*	82·5	N.	*ab*		0,73920
B	65	25	167	05	S.E.	12	55	6.83		6,65·7	1,52·7		N.	82 5	3,99·6	W.	2,48·2	B*b*	6,49·1	B*b*+C*c*	6,65·7	S.	*cb*	4,32106	
C	233	11	210	16	S. W.	30	16	7·95		6,86·3		4,00·9	S.	5,83·2	2·46 9	W.	4,00·9	C*c*	4,00·9	C*c*+D	6,86·3	S.	*c*D	2,75138	
D	42	14	72	30	N.E.	72	30	5 80	1,74·4		5,52,9		S.	12,69 5	6,47 8	W.	0,00·0	D	5,52·9	D+*eE*	1,74·4	N.	D*e*		0,96426
E	242	11	134	41	S.E.	45	19	4.83		3,39·4	3,43·2		S.	10,95 1	94·	W.	5,52·9	E*e*	14,49·0	E*e*+*fF*	3,39·4	S.	*ef*	4,91791	
F	73	05	27	46	N E.	27	46	10.12	8,95·9		4,71·3		S.	14,34·5	2,48·3	E.	8,96·1	F*f*	22,63·5	F*f*+*g*G	8,95.9	N.	*fg*		20,27870
G	119	09	326	55	N.W.	33	05	8.30	6,95·6			4,53·4	S.	5,38·6	7,19 6	E.	13,67·4	G*g*	22,81·4	G*g*+*h*H	6,95·6	N.	*gh*		15,86942
H	92	31	239	26	S.W.	59	26	3,09		1,57·0		2,66·2	N.	1,57·0	2,66·2	E.	9,14·0	H*h*	15,61·8	H*h*+*a*A	1,57·0	S.	*ha*	2,45203	
A	222	14	281	40	N W.	78	20										6,47·8	A*a*					Sum	14,44238	37,85158
Total	1080	00						Total	18,48·4	18,48·4	15,20·1	15,20.1												Subt. S	14,44238
																								Remainder	23,40920
1	2		3		4	5		6	7	8	9	10	11	12	13	14	15	16	17	18	19		20	21	22

ABSTRACT.

	Acr. Dec.
Remainder	23,40920
Offsets, R. 1,34973	
do. L. 2,37047	
Difference, subtract . .	1,02074
Remainder, divided by	2)22,38846
gives, Acres	11,19423
	× 4
Roods	0,77692
	× 40
Poles	3,107680

GROSS AREA.

A.	R.	P.
11	0	3·11

23

Calculation of Offsets of a Boundary Survey, supposed to be taken from the Field-Book. (*Fig.* 3.)

Station Line.	Distance.	Interval.	Offsets.		Sums of each pair of Offsets.	Products of Intervals and Sums of Offsets.	
						Right.	Left.
	Ch. l.	Ch. l.	Ch. l		Ch. l.	Acr. dec.	Acr. dec.
	000	00	11	L.			
A.	1,12	1,12	37	L.	48		·05376
	1,98	86	32	L.	69		·05934
	3,93	1,95	13	L.	45		·08775
	4,08	15	00	L.	13		·00195
B.	Trian.	11	07	L.			·00077
					Sum		·20357
	19	19	00				
	40	21	21	R.	21	·00441	
	2,73	2,33	43	R.	64	·14912	
	3,65	92	66	R.	1,09	·10028	
	5,11	1,46	63	R.	1,29	·18834	
	6,83	1,72	09	R.	72	·12384	
C.	Trian.	9	08	R.		·00072	
					Sum	·56671	
	10	10	00				
	83	73	60	L.	60		·04380
	1,74	91	49	L.	1,09		·09919
	3,08	1,34	08	L.	57		·07638
	5,01	1,93	42	L.	50		·09650
	6,64	1,63	37	L.	79		·12877
	7,58	94	28	L.	65		·06110
D,	7,95	37	00	L.	28		·01036
					Sum		·51610
	42	42	00				
	1,09	67	22	R.	22	·01474	
	2.00	91	43	R.	65	05915	
	2,69	69	39	R.	82	·05658	
	3,11	42	31	R.	70	02940	
	4,51	1,40	62	R.	93	·13020	
	5,37	86	23	R.	85	07316	
E.	5,80	43	12	R.	35	01505	
					Sum	·37822	
	12	12	06	R.	06	·00072	
	20	08	17	L.	23		·00184
	1,45	1,25	62	L.	79		·09875
	2,93	1,48	40	L.	1,02		·15096
	3,97	1,04	18	L.	58		06032
	4,38	41	41	L.	59		·02419
F.	4,83	45	00	L.	41		·01845
					Sum	00072	·35451
	52	52	29	L.	29		·01508
	3,15	2,63	51	L.	80		·21040
	4,20	1,05	59	L.	1,10		·11550
	6,68	2,48	09	L.	68		·16864
	8,13	1,45	48	L.	57		·08265
	9,39	1,26	40	L.	88		·11088
	9,88	49	29	L.	69		·03381
G.	10,12	24	00	L.	29		·00696
					Sum		·74392
	25	25	26	L.	26		·00650
	1,23	98	40	L.	66		·06468
	2,23	1,00	78	L.	1,18		·11800
	3,18	95	59	L.	1,37		·13015
	4,71	1,53	00	L.	59		·09027
	5,69	98	62	R.	62	·06076	
	6,72	1,03	89	R.	1,51	·15553	
	7,30	58	89	R.	1,78	.10324	
	8,25	95	00	R.	89	·08455	
H.	8,30	05					
					Sum	·40408	·40960
	00	·00	05	L.			
	78	78	22	L.	27		·02106
	153	75	24	L.	46		·03450
	247	94	33	L.	57		·05358
	309	62	20	L.	53		.03286
A.	Trian.	11	07	L.			·00077
					Sum		·14277
				Sum	Total	1·34973	2,37047
1	2	3	4		5	6	7

The first column contains the letters corresponding to the stations or angles, and the sides; the second column the observed inward angles which are placed opposite to the middle letter or the intersection of the lines; for example, the angle 65° 25′ opposite the letter B, is the inward angle formed by the lines AB, BC, and so for the rest; the bearings by theodolite in the third column are placed opposite the letters denoting the starting end of the lines; thus, 281° 40′ opposite to A is the bearing of the line AB, in the direction AB; it is so placed to fulfil the condition of the rule, viz , that it is the bearing of the preceding line added to the inward angle ± 180°, which gives the theodolite bearing of the line following; and this arrangement will be found very convenient for plotting from; column 4 contains the cardinal directions of the reduced bearing in the fifth column.

The computations for the bearings are thus made:

Observed bearing of the side A B . . . . 281° 40′ N.W.
Inward angle . A B C . add 65 25
sum 347 05
deduct 180
Bearing of the side B C = remainder 167 05 S.E.
Inward angle . B C D . add 223 11
sum 390 16
subtract 180
Bearing of side C D = remainder 210 16 S.W.

and so on till the side G H, the operation for which will be thus:

Bearing of the side F G . . . . . 27° 46′ N.E.
Inward angle . F G H 119 09
sum 146 55
add 180
Bearing of the side G H . = sum 326 55 N.W.

If the bearings are worked correctly, the bearing opposite A in the last line should come out the same by the operation of the rule as it was entered by observation in the first line, which it does in this table, and furnishes the check for this part of the work.

The columns of reduced bearings are obtained in the following manner:—

Bearing of A B . . . 281° 40′ N.W.	Bearing of B C . . . . 167° 05 S.E.
subtract from . 360 00	subtract from . . . 180
Reduced bearing = diff. 78 20 N.W.	Reduced bearing B C = diff. 12 55 S.E.

and so on for the remainder. This part of the work may, however, by a very little practice, be performed mentally.

Another column containing the observed outward angles is sometimes added before the second column in the above Table, for the purpose of checking the entries of the inward angle; but with ordinary care this is unnecessary. The proof that the observed angles are correctly entered is as follows:—The sum of all the inward angles of any polygon being equal to twice as many right angles, *minus* four right angles, as the figure has sides, the sum of all the angles in the second column of the table ought to fulfil this condition. Now the number of sides in our figure (Fig. 2) being eight, the sum of all the inward angles should be equal to $\overline{8\times 2}-4=12$ right angles, and $12\times 90^\circ=1080^\circ$, which is the sum of the angles in that column, and shows therefore that they have been correctly entered. When the outward angles are entered, their sum should be equal to twice as many right angles, *plus* four right angles, as the figure has sides. Thus, for the figure in question, there should be $\overline{8\times 2}+4=20$ right angles, or $20\times 90^\circ=1800^\circ$, which will be found to be the case.

The first five columns relate entirely to the angles; the consideration of the distances and the traverses corresponding to them follow next in order. The lengths of the station lines (or sides of Fig. 2) are to be inserted in column 6; all distances equal to, or more than a furlong or mile, are usually entered as such in their proper columns; but distances less than one furlong are variously noted in yards, feet, or chains and links: it will, however, be found most convenient to enter all distances in chains, links, and decimals; and such is the notation adopted in the above table. The traverses for each station are worked out in the following manner by the tables:—*

Bearing.	Dist.	Lat.	Dep.
78° 20′	400	80·887	3,91·736
N.W.	08	1·618	7·835
	408	N.82·505	3,99·571 W.
12° 55′	600	5,84·817	1,34·120
S.E.	80	77·976	17·883
	5	2·924	0·671
	685	S.6,65·717	1,52·674 E.

and so on for the remaining sides. These traverses are entered in their proper columns from 7 to 10, according as they are N., S., E., or W., opposite to the distance for which they are taken out, or the station whence the measurements to determine the position of the next station commence: thus the traverses N. 82·5 and 3,99·6 W., on the line of ⊙A, show that these amounts are to be laid off from A, in the direction indicated by the cardinal letters, to determine the position ⊙B. The proof that they have been correctly worked is, in the summing up of each column; as the amount of the two columns of latitude and of the two of departure should each be equal;—*i. e.* the north and south columns should give similar sums when each added up, and so likewise the east and west columns. Where the sums of the traverses do not agree, the distances will either be measured again, or as there is no sure method of verifying the accuracy of Chain-lines measured in the field, it is usual to distribute the errors in Latitude and Departure proportionally with their proper signs, over the several distances in their respective columns, as has been done in the example, the figures in italics denoting the corrected numbers.

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* For a particular account of the method of taking out traverses, see the explanation and use of the tables.

Columns 11, 12, 13, and 14 relate to the *plotting*. They are derived from the four preceding ones: the traverses of the first distance are entered, without any alteration, in their respective columns, opposite to the closing letters of the station lines or distances, which are now determinate. Thus for the distance AB, the traverses N. 82·5 links and 3,99·6 links W. are entered in columns 7 and 10, in line with the letter A, as determining the position of the point B in latitude and departure taken from A; so they are entered in columns 12, 13, against the letter B, as it is the position of the point which *has been fixed*, and not which *has to be fixed*, that is now required to be shown. This arrangement may at first sight appear to be anomalous, but I am satisfied, by the experience of many years' practice, that is the more convenient way to enter those distances which have to be laid off, opposite to the initial letters of the lines; *i. e.* the stations whence the measurements commenced, and which shows in itself the points whence they are to be set off; and such as have been so laid down, opposite to the terminal letter of the distance, than to place them all in the same line (angles, bearings, distances, and traverses), as is usually done by those whose tabular arrangements have come under my notice. The first traverses being so entered then, the remainder are found by taking the sum or difference of the latitudes and departures, immediately succeeding each other, according as they are of the same or of contrary denominations, and entering it in the column corresponding thereto. Thus in columns 7, 8, the number immediately following, after N. 82·5 links, is lat. S. 6,65·7 links: the difference of these two values (because they are of different denominations) leaves S. 583·2 links to be entered in the columns 11, 12, in the next vacant line, or opposite C. Again, the number following in columns 7, 8, is 6,86·3 links; which has to be added to the value last found, or S. 583·2 lks., being of the same denomination, and the sum S. 12,69·5 links entered in column south, immediately following the above, or in line with D. The departures in column 13, 14 are found in a similar manner; and these values express the positions of the several stations: with regard to the first station, whether N. or S., and E. or W. of it, all being measured from that station, or from a point in the meridian passing through it. It is these four columns which are used for plotting the stations and distances from, as will be now explained.

There are several methods followed in laying down, *i. e. plotting* or *protracting* a map from the field-book, viz.—

1st. Linear protraction.
2nd. Angular protraction.
3rd. By the method of co-ordinates, *i.e.* by traverses.

1st. *Linear protraction.*—When no angles are taken, the skeleton of a survey consists of a system of triangles or trapeziums, all the *sides* of which are measured, and which may, therefore, be protracted, the one from the other. This method, when the whole survey is divided first into a few large figures, and afterwards subdivided, admits of considerable accuracy as regards the mere plotting, but its application in practice is limited.

2nd. *Angular protraction.—First,* Where the angles formed by the station lines one with the other, and their lengths, are used: *Secondly,* When the bearings of the lines, *i. e.* the angles which they make with the meridian, and their lengths, are employed. Both of these methods are liable to induce error. In the former case, a fault committed in any stage of the work is increased through every following step, so that there may accumulate as many multiplied errors as there are successive lines to be protracted; *i. e.* each line will be affected by the sum of all the errors committed in the preceding stages of the work. In the second case, too, as the position of each station depends upon the accuracy with which its bearing and distance have been protracted from the station immediately preceding, an error in the position of any station affects all those which follow, but only to the amount of the error itself: it is not multiplied through each successive station, as in the former case. There is, moreover, less liability to err in protraction by bearings, as those must know who are familiar with the subject; still the method is uncertain.

3rd. The method of *protracting by co-ordinates, i. e. by traverses.*—This may be performed in two ways: *First,* the stations in Fig. 2 might be laid down from columns 7 to 10; but as it would be necessary, in order to plot from them, to draw parallel meridians through each station, and to lay down each successive station from that which had been plotted before it; and as each operation would thus be referred to a new point, in itself dependent on that which preceded it, the sources of error become increased with the number of fresh stations to be plotted in: *Secondly,* by referring each station separately to the meridian of station 1, both for latitude and departure, any error which may occur in laying down one point is not carried on through the series, the fixing of that point being an isolated operation, independent of every other in the survey. The advantage of such a mode of protraction is too apparent to need further comment. The application of the four plotting columns is as follows:

Draw any line N. S. (Fig. 3) to represent a meridian, and take any point A in that line to represent the first station of a survey. From A with an opening of the compasses =82·5 links, mark a point *b* northward on the meridian, N.S., and from *b*, on a line perpendicular to N.S. with an opening of the compasses =3,99·6 links mark a point to the west, which will be the station B, A*b* representing the amount of northing, and *b* B the quantity of westing of the ⊙B as referred to the first station or A. Again, from A mark a point *c* on the meridian N.S. south, 5,83·2 links; and from *c*, on a perpendicular to N.S., take a point west 2,46·9 links, which will be

⊙C. Next, from A mark a point *d* on the meridian N.S., south 12,69·5 links; and from *d*, in a perpendicular to N.S., mark a point west 6,47·8 links, which will be ⊙D: and so on for the rest; join the stations AB, BC, CD, &c., which will represent the distances measured, and, in the present case, the complete lines of the boundary. The details of the survey and the features of the country are supposed to be put in, as is usual, from the field-book, and which it is unnecessary to notice further here, the object being merely to explain the application of the tables. The practised surveyor will find in the above description, sufficient to enable him to plot boundaries or maps, and their lines of road; but as the latter may be more easily understood by the inexperienced from a special illustration, I shall, after explaining the remaining columns of the Table, give an example of the mode of mapping roads by traverses.

We have now to explain the adaptation of the tables to the calculation of areas. In calculating the area of an enclosure or boundary survey it is necessary to assume a meridian to which to refer the departures of all the stations in the survey. Column 15 contains the departures of the stations from an *assumed* or *datum* meridian. This should on all occasions be that of the westernmost station in a boundary survey; as the north differences of latitude become then all positive multipliers, and the south all negative, but the reverse is the case when the meridian of the eastern station is selected. Further, it is necessary either to assume a meridian at a specified distance from the westernmost or easternmost point of the survey, or the meridian of one of those two points, to refer the departures of the other stations to; or the calculation of the areas would give two separate sets of operations of the same kind as are now performed to obtain the same result; *i. e.* one set for that portion of the survey lying to the east of the assumed datum meridian, and one set for that part west of it; and a separate entry would be necessary for the fractional parts of such lines as might happen to cross the datum meridian, as EF (Fig, 3), which would destroy the symmetry of the tabular arrangement, or would render it confused by the insertion of additional columns.

Column 15 contains the departures of each station in our boundary, east of the meridian of ⊙D, which is stated as the datum, because most westerly of the ⊙A, and, consequently, of the whole survey. A mere glance at the plotting column headed E. or W. will always enable us to determine which station stands most to the west, without reference to the figure: taking then the departure west of the point D, or 6,47·8 links, we must insert this value in column 15, opposite to A; for it follows as a necessary consequence, if D is 6,47·8 links west of A, that A must be an equal quantity east of D. Having first entered this value opposite to A, in column 15, the remaining entries are obtained, by adding or subtracting successively the departures in the plotting columns 13 and 14 to or from this valué, according as they are of the same or of different denominations. Thus, the departure of ⊙A, in column 15, is entered,

with reference to the meridian of ⊙ D . . . E. 6,47·8
while the dep. of B., in plotting col. 13, is with reference to
the meridian of ⊙ A . . . . . . W. 3,99·6

Therefore the dep. of ⊙ B with reference to the meridian of
⊙ D is equal to the difference, to be entered in col. 15 . E. 2,48·2

Again, Dep. of ⊙ A, E. of mer. of ⊙ D, col. 15=6,47·8
Dep. of ⊙ C, W. of mer. of ⊙ A, plotting col. 13=2,46·9

Diff. = Dep. of ⊙ C, E. of mer. of ⊙ D. . =4,00.9 which enter in
col. 15.

And so on, for all the values west in plotting column 13.

With the eastern departures proceed thus:—

Dep. of ⊙ A, E. of mer. of ⊙ D, . col. 15. 6,47·8
Dep. of ⊙ F, E. of mer. of ⊙ A, plotting col. 13. 2,48·3

Sum=Dep. of ⊙ F, E. of mer. of ⊙ D . =8,96·1 which enter in
col. 15.

Again, Dep. of ⊙ A, E. of mer. of ⊙ D, col. 15 . =6,47·8
Dep. of ⊙ G, E. of mer. of ⊙ A, plotting col. 13 . 7,19·6

Sum=Dep. of ⊙ G, E. of mer. of ⊙ D . . 13,67·4 to be entered in
col. 15, as above,

and so on for the rest. We obtain, therefore, all the values in column 15, which is invariably *east*, by placing opposite to the letter A, or ⊙ A, the greatest departure *west*, in the preceding column, and by simply adding or subtracting the remaining departures of the preceding two columns, according as they are of the same or of different denominations. Column 17 is derived from the preceding by simple addition. Thus the value in the first line, 8,96·0, is obtained by adding together the first and second lines in column 15, or 6,47·8+2,48·2=8,96·0: so by adding together the second and third lines of the same column, we obtain the value to be entered in the second line of column 17, or 2,48·2+4,00·9=6,49·1, and so on for the rest The entries in column 16 represent the lines in Fig. 4, as shown by the letters. Thus, the numbers 6,47·8, opposite letter A. is the dep. of the ⊙ A, E. of the mer. of ⊙ D, or the line A*a*, (Fig 4), and the number 2,48·2, opposite the letter B, is the departure ⊙ B, E, of the same meridian, or the line B*b* in the figure; and in like manner of the others.

All the above operations, which I have given at length for the sake of explanation, are performed with such facility that, with the exception of taking out the traverses, which occupies a somewhat longer time, the whole table may be filled up in a few minutes. Column 19 is introduced solely with a view of facilitating the computation of the areas, by bringing the numbers to be multiplied together into juxtaposition. They are the differences, of latitude, and departures as found by the tables, for each measured distance or (side of figure), and entered in column 6, and with their proper cardinal letter attached, are entered in the same line as in columns 7 and 8. Column 20 shows the lines in Fig. 4, which are represented by the values of column 19. Thus the amount 82·5 N., opposite to A is the line *b a*, Fig. 4, which is the difference of latitude between A and B northerly: so 6,65·7 S., opposite to B, is the line *b c*, or the difference of latitude S. between B and C, &c.; for the meridians, being by the hypothesis all parallel to each other, and the departures all perpendicular to them, and parallel to each other also, it follows that the difference of latitude may be measured with equal accuracy upon any meridian, as might the departures, were such necessary, upon any perpendicular.

Columns 21 and 22 contain the products of the numbers in columns 17 and 19, and are to be entered according as the multiplier, or the difference of latitude, may be N. or S. in the column headed North or South. Thus the product of the two numbers 22,63·5 × 8,95·9 N., or 20,27870 acres, is to be entered in the column north, in the same line; five places being pointed off from the units' place of the integers, to convert the area into acres, and the same five places being retained as decimals, for the purpose of obtaining the amounts of the various fractions of acres in the sums of the two columns: the fifth place of the decimals is always increased by unity when the next figure is above 5. The products of all the other numbers are to be obtained and entered similarly, and each column (21 and 20) to be added up separately. The sum of the products in the column south is then to be subtracted from the products in column north, and half the remainder will be the area of the space contained within the sides of the figure, or the boundary polygon, and, where there are no offsets, this will be the true area of the survey; but where any part of the true boundary lies without the lines of the survey, *i. e.* to the *right*, the area contained between the true boundary and station lines, obtained in the usual way by measured offsets, must be added to the area of the polygon obtained above, while such parts as lie within the lines of the survey, or to the *left*, are to be subtracted: the remainder will be the area contained within the true boundary of the estate or portion of enclosed land which was to be measured. Column 23 of the Table contains an abstract in which the final operations of the computation are made at length, and are too plain to require further explanation.

The sums of the offsets R and L are obtained from the offset columns, which should be always arranged in the same page, as the traverses, &c., or in the pages immediately succeeding, for reference, and for the more easy subdivision of the gross area into parts, as in parish boundaries and their subdivisions. The *first* of the offset columns contains the letters referring to the lines of the survey; the *second*, the distance on those lines (measured from the starting end), at which the offsets are taken; the *third* contains the intervals on each station line, between the points where the offsets are taken, and the amounts entered in it are obtained by subtracting each distance from that next following it, of the same station line in the preceding column. The proof of the accuracy of these subtractions is, of course, that their sums should, together, make up the length of the line, of which they form so many parts. Thus, the intervals in the column so headed, between A and B, together make up 4,08, which is the length of the line AB, and is the number, therefore, entered against the letter B, in the preceding line. The *fourth* column contains the offsets, with their proper letters of reference, as taken from the field-book; the *fifth*, the sum of each successive pairs of offsets belonging to the same station line; and in the *sixth* and *seventh* column are the products of columns 3 and 4, or the area of each portion contained between the offsets as perpendiculars, and the true boundary and station lines. The small triangular portions are such spaces as lie without the line of perpendiculars, and which will sometimes occur, even with the greatest care, in the boundary measurements; they are to be avoided by measuring offsets to the same point from the two contiguous station lines, which in our computation, I suppose, has not been done, or they will be necessarily filled in, in the measurement of the cross lines. The sum of the offset areas R and L are added up for each station line, because, where they are to be employed for the areas of the subdivisions, they are required in the gross only, and not in detail. A single sheet of foolscap paper will, in general, contain the whole of the computations of any boundary survey made as above, which may occur in practice.

Such is the use of the tables herewith published, in the plotting of surveys and the calculation of areas, every portion of which, with the exception of the offset areas, is derived by the simplest processes, from the two columns of field-work,—the "observed inward angles" and the "distances measured." The operations are entirely independent of map or figure, and are so mechanical, that they may be worked out by any one who can add, subtract, and multiply, though he may not understand the objects or laws of the processes, with the same degree of accuracy as if he were to have the most perfect knowledge of both, supposing only that the observed inward angles—the observed bearing of the first line, and the measured distances—are correctly stated by the surveyor. In like manner of the offsets; the distances, offsets, with their proper letters of reference, and letters indicating the station lines, being entered by the surveyor from his field-book, the computations, like those above, require no knowledge of the survey and no reference to map or plan, and are so simple, that they might be filled in by a school-boy. This is a matter of considerable importance, for it enables the practical surveyor to devote his own time (which is valuable) to the out-door work, which is the most important, requiring considerable judgment and experience, and, at times, no little trial of his integrity, and to leave the computation, which requires little skill, to be made by those whose time is paid for at a much lower rate, and is, consequently, of less pecuniary consideration to their employer. I do not mean to infer that the computation of the areas with accuracy and exactness is not of consequence; far from it—for one of the objects of all field-work in boundary surveys is to obtain this result—but it is obtained by such simple means, and is so easily checked, that it does not require the immediate attention of a surveyor whose duties are more particularly required in the field.*

The subdivisions of a survey, being of less consequence in most cases than the gross area, may be made in the manner commonly practised, by the measurement of cross lines, and by the reduction of the boundary polygon into as many subordinate figures as may be necessary with reference to the nature of the survey. Where, as in the case of an extensive parish containing many farms, the area of each farm is of considerable amount, it will be found advisable to survey first the boundary of the parish, and to compute the gross area; then to survey the boundary of each farm, or of so much only of it as lies within the parish limits, and to compute the areas of each by the tables also. The sums of the areas of all the farms, determined by *their* separate boundaries, should equal the gross area of the parish, ascertained by the survey of *its* boundary, and thus a certain means of checking the accuracy of the work is obtained.

In the above remarks it has, for the sake of facilitating the explanation, been supposed necessary for all reductions to be made to the meridian of the first station; and though there are many advantages attending this mode of working traverses, particularly when it is intended to combine several surveys into one map, or where the geographical positions of places have to be determined, with reference one to the other, or to a first point, the latitude and longitude of which is known, still it is attended with the one inconveinence, of adjusting the instrument in the plane of the meridian, which, to those unused to making astronomical observations, or to the calculations necessary in applying those observations to practical uses, will always present a serious obstacle: for the simple purpose of obtaining the area, however, or the relative position of places, not considered geographically, it is not at all necessary to work by a true meridian, for as, by our hypothesis, the meridians are within certain limited distances, considered as parallel straight lines, any side of any right-lined figure, or any line in series, may be assumed as a base or meridian, and the inclinations (or bearings) of all the other sides with this side may be ascertained: also the distances of all the other stations, from the station at either end of the assumed base, or from any point in that base, may be determined by co-ordinates, and the area obtained exactly in the same manner as if the true differences of latitude and the departures were represented by those lines.

To render this familiar, let us take a simple case, that of a regular pentagon for instance (Fig. 6), each side being supposed to measure 25 chains, the inward angles measuring of course 108° each. The area of this figure obtained by the formula,—

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* For a clear and comprehensive description of the Traverse System and Gales' method of Surveying, the Author would refer to a Manual of Surveying for India compiled by Captains R. Smyth, and H. L. Thuillier, Bengal Artillery, Edition 1855, in which, at page 268, an example is given of the mode of applying the corrections in Latitude and Departure, where the Sums of the North and South, and of the East and West Columns do not agree. In the Example at page XV. of this Introduction, the difference of the North and South Columns from the mean is 0·6 link, and of the East and West Columns is 0·65 link only, and these differences have been distributed approximately among the distances as shown by the figures in italic type.

Perimeter × perp. from centre on any side ÷ 2 = area,
amounts to 25 × 5 × 17·20477 ÷ 2 = 107·52981 acres,
or 107 acres 2 roods 4·770 poles.

Taking any side, as AB, for our base, and producing it indefinitely in both directions to *a* and *b*, to meet the perpendiculars from the stations, we have the inclination or bearing of the line B C, equal to the inward angle ABC, or 108°, to which adding 180° (Rule, page xiii) we obtain the bearing angle by the theodolite of the first line with the base = 108° + 180°, or 288°; whence the following Table may be arranged in every respect agreeably to the instructions given above, in working out the columns in the Table at page xv.

TABLE, showing the Mode of Computing the Area of a Regular Pentagon by the Traverse Tables.

Station.	Observed Inward Angle.	Bearing by Theodolite.	Cardinal Direction.	Reduced Bearing.	Distance Measured.	Diff. of Lat. and Dep. for each Dist.				Diff. of Lat. and Dep. of each Station from ⊙A Base Line.				Sums of Deps. from Base Line.	Products of Sums of Dep. and Lats. of each Dist.	
						Latitude.		Departure.								
						North.	South.	East.	West.	N. or S. Lat.		Dep. E. or W.			N. Prods.	S. Prods.
	°	°		°	Ch.											
A	..	288	N.W.	72	25	7,7254	..	..	23,7764	..	..	..	..	23,7764	18,36822	..
B	108	216	S.W.	36	25	..	20,2254	..	14,6946	N.	7,7254	23,7764	W.	62,2474	..	125,89786
C	108	144	S.E.	36	25	..	20,2254	14,6946	..	S.	12,5000	38,4710	W.	62,2474	..	125,89786
D	108	72	N.E.	72	25	7,7254	..	23,7764	..	S.	32,7254	23,7764	W.	23,7764	18,36822	..
E	108	360	N.	00	25	25,0000	..	..	..	S.	25,0000	..	..	Sum •	36,73644	251,79572
A	108	288	N.W.	72	25	..	..	..	..							36,73644
Sum	540				Sum	40,4508	40,4508	38,4710	38,4710						Remr. ÷ 2	215,05928
															Area; acr	107,52964

The area obtained by the traverse table, 107·52964 acres, or 107 acres 2 roods 4·742 poles, differs from that obtained by the formula by 28—1000ths of a pole only, or about six square feet, which in 107 acres is a quantity altogether insignificant. In the arrangement of the annexed Table two columns have been omitted, viz, that of the "Departures of each station from meridian of first station," and the column of "Multipliers." The former is rendered unnecessary, because a line may always be taken as a base, so that all the other lines of the figure shall lie on the same side of it, and the necessity for assuming a *datum meridian* out of the figure, and reducing all latitudes and departures to it, is obviated. The column of multipliers has been omitted, as a very little practice renders it unnecessary, the multipliers being *invariably* the latitudes in the traverse columns, on the same line with the sums of departures of stations from base line or datum meridian. As the line AB is to the E. or imaginary east of the other lines of the figure, the south products are positive and the north products negative, as stated at page xx.

It may be observed that when the area of a regular figure can be obtained by one simple multiplication, it would be incurring great unnecessary trouble to have recourse to the more protracted and tedious method of working out the result by the traverse table; but it must be remembered that this figure has been selected merely to show how close the result obtained by traverses corresponds with that by the formula—that regular figures seldom occur in practice—that the method by traverses applies equally to all right-lined figures, however irregular—that, some cases of offsets excluded, which in an extensive boundary survey form but a very small part of the gross area, it is altogether independent of figure—that the processes follow and flow from one another with simplicity and mechanical regularity—and that the errors of measurement in the field are checked in the very first stages of the work in the closet, while the present manner of surveying, if it does admit of any *positive* check, is seldom, perhaps never, submitted to the test. All these advantages being considered, it is an indisputable fact, that, for accuracy, dispatch, and facility of check, we have no practical method of computing areas so perfect as that by the Traverse Table.

In the above explanation of the practical use of the tables in computing areas, every line has been supposed to lie in the same horizontal plane. If the surface of the earth were uniform, this supposition would not affect the results obtained, as has been shown, in any sensible degree; but this is not the fact, and the undulations of the surface are in many cases of sufficient magnitude to make an appreciable difference between the true superficial extent of any portion of land, lying within a certain enclosure or boundary, and the area of the same considered as a horizontal plane. It is the practice, however, in spite of this difference, which in some cases is considerable, for land surveyors to reduce all their measured lines to the same horizontal plane, and to calculate their areas accordingly; and it has been, and still is, affirmed by many, that it is quite immaterial which of the two methods is adopted —the natural, or the artificial; or, in other words, the correct or the incorrect method. The interest of the landed proprietors, they argue, would not be benefited by a knowledge of the true area of the surface of their estates, because it is impossible to produce a larger crop—*i. e.* more individual plants—upon the surface of a hill, than it would be upon the horizontal plane of its base, no matter what might be the figure thereof. Erroneous as these assertions are, and easy of refutation, it is foreign to the object of the present work to enter at all into the argument; and the fact has only been noticed with a view of observing that, while the tables might be made use of in calculating the true superficial contents, they are also equally applicable to the practical method now generally pursued by land-surveyors.

The method of plotting the survey of a line of road, or mapping by traverse, has now to be explained: this is only a modified application of the 3rd case, or that of protraction by co-ordinates; for in road surveys the lines generally lie on one side of the meridian, and in one quarter of the compass, though of course not necessarily so

The annexed table contains an extract from a survey, by myself, of the road

Traverses of a part of the road between Hatras and Barelly. Surveyed March, 1836, by Captain J. T. Boileau, Bengal Engineers

Page of Field Book.	Station.	Names of Places.	True bearing by Theodolite.		Cardinal Direction.	Reduced Bearings.		Distances measured.			Traverses of each Distance.												Traverses of each Station reduced to first Stations.								Remarks.
											Latitude.						Departure.						N. or S.	Latitude.			Departure.			E. or W.	
											North.			South.			East.			West.											
			°	′		°	′	M.	F.	Links.	M.	F.	Links.	M.	F	Links.	M.	F.	Links.	M.	F	Links.		M.	F.	Links.	M.	F.	Links.		
1	1	Hatras ⊙ of Bazar	14	06	N.E.	14	06	.	1	350	.	1	309 ·3	.	.	..	.	.	328 ·9	.	.	..	N.	.	.	..	.	.	..		This is also Sta. 1, Lieut. Hill's Survey
.	2	Ditto E. Gateway	31	...	N.E.	31	...	.	.	382	.	.	327 ·4	.	.	..	.	.	196 ·7	.	.	..	N.	.	1	309 ·3	.	.	328 ·9	E.	The Lat. of Sta. 1, 27° 36′ N. By obsvn
2	3	...	315	42	N.W.	54	18	.	.	450	.	.	262 ·6	.	.	..	.	.	..	.	.	365 ·4	N.	.	1	636 ·7	.	.	525 ·6	E.	The Long. of ditto, 78° 04′ E. By accoun
.	4	...	37	15	N.E.	37	15	.	.	314	.	.	249 ·9	.	.	..	.	.	190 ·1	.	.	..	N.	.	1	899 ·3	.	.	160 ·2	E.	
.	5	Kure ka nugra	319	30	N.W.	40	30	.	1	...	.	.	760 ·4	.	.	..	.	.	..	.	.	649 ·4	N.	.	2	149 ·2	.	.	350 ·3	E.	
.	6	Jerma nugra	52	...	N.E.	52	...	.	.	636	.	.	391 ·6	.	.	..	.	.	501 ·2	.	.	..	N.	.	2	909 ·6	.	.	299 ·1	W	
.	7	...	49	...	N.E.	49	...	.	1	427	.	.	936 ·2	.	.	..	.	1	077	.	.	..	N.	.	3	301 ·2	.	.	202 ·1	E.	
.	8	Khundharee-kee Gurhee	63	30	N.E.	63	30	.	1	295	.	.	577 ·8	.	.	..	.	1	158 ·9	.	.	..	N.	.	4	237 ·4	.	1	279 ·1	E.	
.	9	...	66	...	N.E.	66	...	.	1	741	.	.	708 ·1	.	.	..	.	1	590 ·4	.	.	..	N.	.	4	815 ·2	.	2	438 ·0	E.	
.	10	Jogeepoor	41	06	N.E.	41	06	.	2	109	.	1	589 ·3	.	.	..	.	1	386 ·4	.	.	.	N.	.	5	523 ·3	.	4	028 ·4	E.	
.	11	...	54	20	N.E.	54	20	.	4	741	.	2	764 ·3	.	.	..	.	3	851 ·7	.	.	..	N.	.	7	112 ·6	.	5	414 ·8	E.	
.	12	Sokna begins	56	10	N.E.	56	10	.	.	573	.	.	319	.	.	..	.	.	476	.	.	..	N.	1	1	876 ·9	1	1	266 ·5	E.	
.	13	Ditto ends	73	30	N.E.	73	40	.	.	818	.	.	230	.	.	..	.	.	785	.	.	..	N.	1	2	195 ·9	1	1	742 ·5	E.	
.	14	Rutungurhee	58	30	N.E.	58	30	.	6	714	.	8	508 ·1	.	.	..	.	5	724 ·7	.	.	..	N.	1	2	425 ·9	1	2	527 ·5	E.	
.	15	Ditto	56	...	N.E.	56	...	.	.	727	.	.	406 ·5	.	.	..	.	.	602 ·7	.	.	..	N.	1	5	934 ·0	2	0	252 ·2	E.	
.	16	...	49	30	N.E.	49	30	.	2	591	.	1	682 ·7	.	.	..	.	1	970 ·2	.	.	..	N.	1	6	340 ·5	2	0	854 ·9	E.	
.	17	...	54	...	N.E.	54	...	.	1	682	.	.	400 ·8	.	.	..	.	.	551 ·7	.	.	..	N.	2	0	023 ·2	2	2	825 ·1	E.	
.	18	...	58	...	N.E.	58		.	3	695	.	1	958	.	.	..	.	3	133 ·5	.	.	..	N.	2	0	424 ·0	2	3	376 ·8	E.	
.	19	...	54		N.E.	54	...	.	1	636	.	.	961 ·6	.	.	..	.	1	323 ·6	.	.	..	N.	2	2	382 0	2	6	510 ·2	E.	
3	20	...	53	45	N.E.	53	45	.	5	609	.	3	316 ·6	.	.	..	.	4	523 ·3	.	.	..	N.	2	3	343 ·6	2	7	833 ·9	E.	
.	21	Ujeetpoor	50		N.E.	50	...	.	1	568	.	1	007 ·9	.	.	..	.	1	201 ·2	.	.	..	N.	2	6	660 ·2	3	4	357 ·2	E.	
.	22	Duriapoor	55	45	N.E.	55	45	.	4	...	.	2	251 ·2	.	.	..	.	3	306 ·4	.	.	..	N.	2	7	668 ·1	3	5	558 ·4	E.	
		Total	...		...	...	...	.	.		3	1	919 ·3	.	.	..	4	1	879 ·6	.	1	014. 8	N.	3	1	919 ·3	4	0	864 ·8	E.	Diff. Lat. [illegible] N. Long. [illegible] E.
.	1	Duriapoor	58	24	N.E.	58	24	1	2	473	.	5	487 ·7	.	.	..	1	0	920 ·1	.	.	..	N.	.	.	..	.	.	..	.	
.	2	Burolee	39	12	N.E.	39	12	1	5	568	1	2	514 ·4	.	.	..	1	0	575 ·4	.	.	..	N.	.	5	487 ·7	.	0	920 ·1	E.	
.	3	Dutroee	51	15	N.E.	51	15	1	1	500	.	5	046 ·3	.	.	..	.	7	408 ·9	.	.	..	N.	2	0	002 ·1	2	1	495 ·5	E.	
.	4	Ditto	41	27	N.E.	41	27	.	7	309	.	5	478 ·3	.	.	...	.	4	838 ·3	.	.	..	N.	2	5	948 ·4	2	5	904 ·4	E.	
.	5	Tikaree	54	48	N.E.	54	48	.	.	568	.	.	327 ·4	.	.	..	.	.	464 ·1	.	.	..	N.	3	3	426 ·7	3	5	742 ·7	E.	
			...	...	...	...	...	.	.	...	3	3	754 ·1	.	.	..	3	6	206 ·8	.	.	..	N.	3	3	754 ·1	3	6	206 ·8	E.	Diff. Lat. 30′01·39″ N. Long. 03′ 41·69″ E

between HATRAS and BARELLY, in the N. W. provinces of the Bengal Presidency, made in the year 1836, and will serve to illustrate the application of the tables to this kind of work. The first column refers to the page of the field-book; the second contains the numbers of the stations; the third the names of the villages or towns immediately contiguous to the lines, or through which they may pass, and prevents the necessity of frequent reference to the field-book; in the fourth column are entered the true bearings as registered on the limb of the theodolite, *i. e.* the observed magnetic bearings, corrected for the variation of the compass; columns 5 to the end are in all respects similar to those in the table, page xv, numbered 4 to 14, and are filled up as directed for them. The lines across the table are the limits of the work of each period, whether daily, or morning, or evening work; such breaks are necessary for protraction, and convenient for reference.

Figure 7 contains a few of the first stations protracted on a scale of eight inches to a mile; Figure 8 the whole of the lines in the first portion of the work, or that part between Hatras and Duriapoor. The stations are plotted in the following manner: draw any line (Fig. 7) to represent a meridian, and assume any point upon that line for the first station of the survey;* mark a point on the meridian N. of ⊙1 1 furlong 3,09·3 links, or 13,09·3 links (being the 1st entry, and opposite to the number 2 in the plotting column *Latitude* of the table), and number this point 2′: from 2′ on a line perpendicular to the meridian, mark a point E. 3,28·9 links (being the first entry, and also opposite to the number 2 in the plotting column *Departure* of the table), and this point will be ⊙2. Again, from ⊙1 in a direction N. 16,36·7 links, *i. e.* 1 furlong 6,36·7 links, mark a point and number it 3′, and from 3′ on a line perpendicular to the meridian, set off a point E. 5,25·6 links, which will be ⊙3; and proceed in a similar manner for the remaining stations, taking all the values successively from the plotting columns, and laying them off as above from ⊙1, according to the indication of the cardinal letters; draw lines connecting the stations 1, 2, 3, &c., which will represent the measured or station lines of the survey, from which distant objects are filled in by intersection, and near ones by offsets in the usual way.

In protracting each piece of work it will be found convenient to fix the extreme points first, and to fill in the intermediate stations afterwards. In Fig. 8, the positions of Hatras and Duriapoor were first laid down, and those of the several other intermediate points after this had been done; great facility is thus afforded, also, for reducing and enlarging, or transferring maps of single lines of road where the bearing of the line is considerable; as will appear evident by an inspection of the figure, in which the diagonal, from the first to the last station, becomes the line of reference, the perpendicular distances of the several stations from it, excepting the few first, being much less than those from the meridian itself.

The differences of latitude and the departures in the column of remarks entered against the last station in each series, are computed from Table IV., and serve to determine the relative geographical position of those stations with reference to the first, or to any other station in the series. The positions of places in maps are determined by similar entries, and are set off by scales of minutes and seconds from meridians upon parallels of latitude, in the same manner as the stations in Figures 7 and 8 were on a scale of miles and parts. Thus, if it were required to lay down the position of Duriapoor in a map of India, the latitude and longitude of Hatras, the first station in the survey being known, it would be done in the following manner:

---

* The position upon the paper of the meridian and first station will depend upon the general direction of the line to be surveyed.

HATRAS .	Lat. N.	27° 36′ 00″	Long. E.	78° 04′ 00″
Duriapoor .	diff. Lat. N.	02 49·4	diff. Long. E.	04 01·20
Duriapoor .	true Lat. N.	27 38 49·4	true Long. E.	78° 08 01·20

With the true latitude and longitude so found, the position of the village would be fixed by the intersection of co-ordinates from the nearest meridian and parallel of latitude on the map, and the position of any other point or place in the survey would be laid down in a similar manner.

The traverse-table may be applied to various other uses, as is fully explained in works containing tables of natural sines and cosines, of which they are but an extension: there is one purpose, however, to which they are particularly adapted; viz. the tracing of railway curves, which it is my intention now to explain.

The application of the traverse-table to the tracing of railway curves depends upon the two following trigonometrical formulæ:—

1. The chord of any arc = twice the sine of half the arc.
2. The perpendicular bisecting a chord and its arc = { Versed sine of half the arc, or radius — cosine of half the arc.

In the traverse-table departure represents the sine; latitude, the cosine, and distance answers to radius.

To fix any number of points in a circular arc, or in the whole circumference of a circle, it is only necessary to know the length of the radius of curvature, and to determine, by means of the tables, the chord and versed sine of any arc, and of its subdivisions. With these elements the positions of these points may be laid down, as will be shown presently.

When it is required to connect the extremities of two portions of a railway, not in the same straight line, terminating at a distance from each other by a curve, the lines of railway must be tangent to the curve at both points of contact: there can, therefore, when the curve is uniformly circular, be but one length of radius and one length of curve which will answer those conditions: so also there is only one case in which the curve, if circular, *can be* uniform; namely, when the angles formed by two straight lines of railway with the chord line connecting their extremities are, on the same side of the line, equal: in all other cases a combination of curves of different radii, if circular arcs are intended to be used, will be necessary; these will be regulated by the particular circumstances of each individual case: still, as every curve which it may be required in practice to trace on the ground can be made up of a number of circular arcs, and as the length of these several arcs and their radii must be determined before they can be traced upon the ground, these considerations do not in any way affect the adoption of the method by which I propose to determine such number of points in the curve as may be necessary for the accurate distribution of the railway bars. I shall therefore take the simplest case which can occur,—that of one uniform circular curve,—and show how a number of points in it may be fixed in practice; from which the application of the method to combined curves will be readily understood: for each successive portion, where the radius of curvature varies, will be treated, according to the rules laid down, as an isolated arc, the elements for which (*i. e.* the chord and versed sine of its subdivisions) being determined by the tables, are applied in the same manner for this arc, or portion of the general curve, as for any other arc considered in itself as a complete curve.

When the length of each circular arc and its radius shall have been determined, it will be found useful to have some guide to regulate the most suitable arc or angle for which the curve and versed sine, in the commencement of the field operations, shall be determined: for it is necessary, in avoiding the use of too long chord lines, to take the longest possible versed sine, so far as it can be done without increasing too much the length of the chord. The following table has been drawn up for this purpose, and contains those angles which will, it is believed, be found most convenient to commence with in curves whose radius lies between 1000 and 40,000 feet, or from 1½ furlongs to 7½ miles, which embraces all such as usually occur in practice.

Radius.	Angle.	Chord.	Versed S.	Radius.	Angle.	Chord.	Versed S.
Feet.	° ′	Feet.	Feet.	Feet.	° ′	Feet.	Feet.
1,000	12 48	222·9	6·23	16,000	1 52	521·2	2·13
2,000	8 30	297·6	5·55	18,000	1 36	530·3	1·86
3,000	6 24	334·9	4·68	20,000	1 36	558·4	2·00
4,000	5 20	372·2	4·34	22,000	1 28	563·0	1·87
5,000	4 48	418·7	4·39	24,000	1 20	558·5	1·68
6,000	4 16	446·7	4·16	26,000	1 12	576·3	1·64
7,000	3 44	456·0	3·72	28,000	1 04	521·1	1·25
8,000	3 12	446·7	3·12	30,000	1 04	558·5	1·30
9,000	3 12	502·6	3·51	32,000	1 04	596·6	1·39
10,000	3 12	558·4	3·90	34,000	56	553·7	1·14
12,000	2 24	502·6	2·64	36,000	56	586·3	1·20
14,000	2 08	521·2	2·44	38,000	48	530·5	1·00
16,000	1 52	521·2	2·13	40,000	48	558·4	1·00

It is always advisable to make use of an arc or angle in the commencement of the work of such number of minutes, or degrees and minutes, as is capable of being halved the greatest number of times without introducing the fraction of a minute;

i. e., to take some multiple of 2′, 3′, 5,′ 7′ 9′, &c., according to the length of the radius of curvature and the number of times it may be necessary to bisect the arcs to obtain a sufficiency of points for the required degree of approximation to the curve. The inconvenience of using such arcs as do not subdivide by 2 into whole minutes is evident: for, as the tables are calculated only to single minutes, the introduction of the fraction of a minute would involve the necessity of working out the fractional part by proportion.

Let xA, yG, Fig. 9, represent the extremities of two straight lines of railway which it is required to connect by an uniform circular curve, of radius 1¾ miles, or 9240 feet. By referring to the above table it appears that 3° 12′ is the angle most suitable to the commencement of the work; this is a multiple of 3′, and may be halved six times successively without introducing a fraction. The working lines for the several arcs may be found by the Tables as follows:—

Arc	3° 12′	Dist.		Lat.		Dep.
Half arc	1° 36′	9000		8996·49		251·29
		200		199·922		5·584
		40		39·984		1·117
		9240	Cosine	9236·396	Sine	257·991
		Distance or Radius		9240		× 2
			Versed sine	3·604	Chord	515·982

and similarly for the lesser arcs. The lines so found may be arranged in a table as, below, for use in the field.

Arc	Chord.	* Half Chord.	Versed Sine.
3° 12′	515·98	257·99	3·604
1° 36′	258·	129·	·904
48′	129·01	64·50	·226
24′	64·50	32·25	·063
12′	32·24	16·12	·022

It is unnecessary to proceed further; and, in tracing the curve in the first instance, the two last sets of lines will not require to be used.

To fix points in the curve on the ground, commence at the end of either straight line of railway, as at A in Fig. 9, and in the direction of the line produced measure distances 1, 2, 3, 4 from A, successively, equal to the half chords in the table, beginning with the shortest: from these points erect a set of perpendiculars inwards, each equal to the corresponding versed sines in the table, which will give so many points a^1, a, a^2, in the curve. This is undoubtedly the best way of commencing, it being easier to produce a line truly, and to draw a short perpendicular from the end so produced, than from a short line or offset at the commencement to draw a long line which shall be truly perpendicular thereto. There are several ways in which the remaining points in the curve might be fixed; the following is, however, the simplest, as it involves only one set of measurements, that of the perpendiculars excepted:—Provide a bricklayer's or carpenter's level, the rule of which is from eight to ten feet long, and adjust the standard to the length of the versed sine of the largest arc, or 3·604 feet. Place the level at B; the rule or straight edge in the supposed direction of the chord from A to C; stretch a line by the edge of the rule, and adjust the two until they coincide; produce the line and measure a distance from A equal to the chord line in the table, or 515·98 feet; or from the centre of the level (which of course bisects the chord), equal to the half chord, or 257·99 feet; and this will determine the next point C. Remove the level to C, and proceed in a similar manner until other fundamental points D, E, F, as far as they can be continued, are marked. Connect the fundamental points B C, C D, &c. by lines, which will equal the chords of the next less arcs, and from the middle points of these lines raise perpendiculars outwards, equal to the corresponding versed sines, which will determine a second series of points *b*, *c*, *d*, &c. Again, by connecting the points B *b*, *b* C by lines, and raising perpendiculars from the middle of those lines outwards, equal to the versed sines following, a third and fourth series of points b^1 b^2, c^1 c^2, &c. are determined; and so the points may be multiplied as far as is considered necessary. In tracing a curve of the radius supposed above, it will be unnecessary to proceed beyond the third set of lines, when the versed sine to a chord of 129 feet is only three inches. In distributing the rail-bars, however, the adjustments must be carried on to the last set of lines, where the chord is nearly equal to the ordinary length of two bars.

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* The word half chord is used instead of sine, as more suited to the nature of the work to which it is applied.

Where the first points in the curve have been determined as directed above, there will always remain a portion to be marked out beyond the last fundamental point, unless the arc first used will divide exactly into the whole curve, which seldom happens to be the case; the remaining part may be filled in, in the following manner:—Let F, Fig. 10, represent the last fundamental point fixed; *e* e^1 e^2, the immediate points between E and F, determined by perpendiculars on their respective chords; adjust the level to any versed sine, as ·904 feet for instance, and lay it down at F. From *e*, the point in the curve already determined, which answers to the half chord of the versed sine ·904 feet, stretch a line, made to coincide as above with the edge of the rule, and measure a distance on it, from *e*, equal to the corresponding chord, or 258 feet, or 129 feet from the centre of the level, which will determine another point *f*. Connect F *f* by a straight line, and from the middle of the line F *f* erect a perpendicular outwards, equal to the next less versed sine in the Table, and the point f' will be determined. In a similar way the process may be continued until the curve closes as near to G, the point of contact with the second straight line of railway, as is necessary.

As the points of meeting of the several arcs in a continued curve must have been determined before the radius of curvature could have been calculated, the line of their centres may be found in the following manner:—Let B, Fig. 11, be a point in a curve whence the direction is to be changed, A B a part of the curve already traced; from B, with a line equal to any chord in the table of working lines, take a point *f* back in the curve; adjust the standard of the level to the next greater versed sine, and lay it down at the point B. From the point *f* stretch a line *f g* in such a direction that it shall coincide exactly with the straight edge of the rule; a line *c d* drawn perpendicular to the line *f g*, will be in the direction of the centres, and a line parallel to *f g* passing through the point B, will be a tangent both to the curve A B at that point, and to any other curve which can be drawn through that point having its centre anywhere in the line *c d*, or in that line produced. In a similar manner, the line of centres of any two following circular arcs in a combined curve, as of BC, and C D, in Fig. 11, may be determined, and points in those arcs laid down consecutively, by the rules given above, until the whole curve shall be completed.

The above rules for fixing points in a circular curve on the ground, though simple in principle, and perhaps the easiest of practical application of any which can be adopted, are still open to the difficulties which always attend the exact measurement of horizontal lines of considerable length in the field, under all circumstances, excepting when the curve has to be traced on a natural plane. Undulations of the surface, whether direct or lateral, the occurrence of obstacles in the chord lines, such as streams, pits, mounds, or the like, all offer difficulties to the actual performance of the work, which must be overcome by the application of such means as each particular case may render necessary, and which, as they cannot be provided for in any rule that can be given for tracing the curve, must be left entirely to the judgment of the directing engineer.

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EXPLANATION AND USE OF THE TABLES.

The Traverse Table, *pages* 1 *to* 91.

This Table is an extension of a table of natural sines and cosines to single minutes of a degree, the latitude and departure entered for each minute being multiples of the natural cosine and sine of that minute. The arrangement here followed is different from that which has been observed in general traverse tables hitherto published, in which the distances are carried across the open page on the same line with the bearings or angles arranged in the side columns from the head to the foot of the page, and *vice versâ*. Such an arrangement is inconvenient, inasmuch as the eye has to travel perhaps across the whole open page to take out the traverses of the several parts of a distance, and there is always a liability in doing so to miss the line answering to any bearing, especially when the operation has to be repeated, as is sometimes the case, five or six times for the same distance. In the present table the ten latitudes and ten departures for the same degree and minute are ranged each in the same vertical column, a blank being left between them, and also between the distances 5 and 6, for convenience of reference. Great facility is afforded by this method of arrangement; for the principal argument in entering the tables is the bearing or angle, which is constant for all the component numbers of a distance; and as it is by the sum of the traverses of its parts that the traverse of a whole distance is obtained, it becomes an object, so far as it can be done systematically, to bring the latitudes and departures for each angle into the narrowest possible limits. This it is believed has been done in the table now published; the first of its kind carried out to single minutes, or arranged in the manner therein adopted. In entering the table for any bearing or angle, the degrees from 0° to 44° inclusive will be found marked at the head of the page, and from 45° to 89° at the foot in an inverse order. But as the present arrangement precludes the possibility of more than 60 sets of numbers in each open page, it will be necessary in taking out the traverses for whole degrees, between 1° and 44° inclusive, to enter the page of the next less whole degree, and to use that degree + 60′ in place of the whole degree sought. The minutes of each degree, from 0° to 44° inclusive, range from the left hand upper corner of the left page, at the top of each section and are reckoned in direct order to the right, and from 45° to 90° the reverse, *i. e.* they begin at the right hand lower corner of the right page, and are read in inverse order at the bottom of each section: every 5th minute being at the right hand of the left page, and every 10th minute at the right hand of the right page both downwards and upwards, there can be no difficulty in finding readily any required minute in any part of the page. The rest of the arrangement is too plain to require any explanation. The method of taking out a traverse in each of the three cases mentioned in the above explanation is as follows :

Example 1. Given the bearing of a line 26° N.W., and the distance 9 chains 59 links; required the difference of latitude and the departure.

Here we must substitute 25° 60′ for 26° as directed above ; enter the table, and at the head of the page seek for 25 degrees, from the section 60′ (reckoned from the top); take out the differences of latitudes and the departures separately for the hundreds, tens, and units, in the distance, as expressed by its significant figures, from their proper columns in the table, agreeably to the designation at the *head* of the page, removing the decimal point of the traverses taken out as many places to the right hand, as the figures in each separated portion of the distance exceed those in the corresponding numbers of the tabular distance columns: the distance 9·47 links will be separated into 900, 40, and 7 links, and the traverses for each taken out separately, thus:

Bearing.	Distance.	Latitude.	Departure.
26° or 25° 60′ N.W.	900	808·914	394·533
	40	35·952	17·535
	7	6·291	3·068
	9,47	N. 8,51 157	4,15·136 W.

The difference of latitude will always be expressed by the same cardinal letter N. or S., and the departure by the same letter E or W., as indicate the direction of the bearing.

Example 2. Given the bearing 38° 27′ S. E., and the distance 13 chains 29 links, to find the difference of latitude and the departure.

Seek in the table at the head of the page for 38°, and from the section 27′ (counting the minutes from the top), take out the differences of latitude and the departures for the separate numbers comprising the distance according to their significant figures; *i. e.* for 1000, 300, 20, and 9, removing the decimal point as directed before: thus:

Bearing.	Distance.	Latitude.	Departure.
38° 27′ S. E. .	1000	783·151	621·831
	300	234·945	186·549
	20	15·663	12·437
	9	7·048	5·596
	13.29	S. 10.40·807	8,26·413 E.

Example 3. Required the difference of latitude and the departure for a bearing 79° 45′ S.W. and distance 167 chains 54 links.

The degree of the bearing being greater than 45° will be found at the foot of the page, and the minutes must be reckoned from the foot also in inverse order, *i. e.*, from right to left; the differences of latitude and departures will be taken from their proper columns in section 45′, but, according to the designation at the *foot* of the page, the distance will be separated into 10,000, 6,000, 700, 50, and 4; the process is the same as in the examples 1 and 2, thus:

Bearing.	Distance.	Latitude.	Departure.
79° 45′ S.W. .	10,000	1779·43	9840·40
	6,000	1067·66	5904·24
	700	124·560	688·828
	50	8·897	49·202
	4	·712	3·936
	167,54	8·29,81·259	164,86·606

The base and perpendicular of an inclined plane may also be found by these tables, the length of the plane and its inclination to the horizon being given.*

Example 4. I observed the angle which a hill or rising ground makes with the horizon 06° 15′, and measured its length 147 63 feet: required the length of its base on the plane of the horizon and perpendicular height.

Angle.	Length or Distance.	Base or Latitude.	Perpendicular or Departure.
06° 15′	100	99·406	10·867
	40	39·762	4·355
	7	6·958	·762
	·6	·596	·065
	·03	·030	·003
	147·63	Base 146·752	Perp. 16·072

This problem is of great use in surveying, both in determining the horizontal distances between places in the field, and in giving the lengths of lines measured out of the plane of the horizon for their projection in maps and plans.

TABLES I., II., III., *pages* 92, 93, *and* 94.

It frequently happens that measurements made in one denomination require to be converted into their equivalents of another denomination: for instance, route surveys are generally measured with instruments registering yards or feet; and circumstances may occur, and do frequently happen, where instruments cannot be readily procured, which induce the necessity of making all measurements of every kind in one or other of the above denominations, Land surveys are however generally made in Gunter's measure, or in links each the 1000th part of a furlong; and this is the most convenient of all measures for determining the acreage of any extent of surface; but for geographical purposes the standard unit being the English foot, those measurements are most convenient which are made in this denomination, the length of degrees of latitude and longitude being most frequently expressed in tables in feet also. The arrangement of these tables requires no explanation; their use is as follows;

TABLE I., *page* 92.

Example 5. Required the equivalent in chains, links, and decimals of links, to 186¼ or 186·25 yards.

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* Base corresponds to latitude, and perpendicular to departure.

Enter the table in the columns designated yards, and seek the number 186, the first part of the equivalent for which is noted at the head across the double column of yards and feet, and is 8 chains: in the last column, on a line with the number 186 is the remaining part of the equivalent, or 45·4 links. The decimal parts are taken out as whole numbers, removing the decimal point in the equivalent number as many places as it is removed in the original: thus, for ·25 yards take out the equivalent for 25 yards = 1 chain 13·6 links, or 113·6 links, and remove the decimal point 2 places to the left, which will give 1·136 links for the equivalent to ·25 yards; add this to the part already obtained, and you will have 8,45·4 + 1·136 = 8,46·536 links for the equivalent to 186·25 yards. The work is arranged in the following manner:

Yards.	Ch. & Lks.
186	8,45·4
·25	1·136
186·25	Chs. 8,46·536 lks. *Ans.*

Example 6. Required the equivalent in chains, &c., to 654·7 feet.

The processes are exactly similar to those described above, and similarly arranged, thus:

Feet.	Ch. & Lks.
654	9,90·9
·7	1·06
Feet 654·7	Chains 9,91·96 lks. *Ans.*

As one furlong equals 10 chains or 1000 links, the equivalent to any number of furlongs may be determined without the necessity of computation or of reference to any table, by adding a cipher to the figure expressing the number of furlongs, thus; 2 furlongs is 20 chains, 11 furlongs or 1 mile 3 furlongs, is 110 chains, &c.

Table II., *page* 93.

This and the following two tables have necessarily been broken into two parts, the page being too short to contain as many lines of figures as the tables consist of.

Example 7. A distance is measured, 64 chains 72·5 links. It is required to convert the same into its equivalent in yards and decimals of yards

There being two significant figures in the number of chains, the first denoting tens, the second units, the equivalents must be taken out for each separately. Enter the column of chains corresponding to the significant figures in the first part of the table where it is an exact decimal multiple of that number, or in the first or second part of the table, according as the number of links is more or less than 50, when the whole distance is less than 10 chains, the first part of the equivalent value is found in the same column under the number of chains, and in a line with the number of links in the column so designated; the last part of the equivalent is found in the column headed decimals of yards, of which there is one for each part of the table. The decimal parts of links are taken out as directed above, and the processes are arranged as follows:

Ch. Lks.	Yds. Dec.
60	1320
4,72	103·84
·5	·110
Chs. 64,72·5 lks·	1423·950 yds. *Ans*

TABLE III., *page* 94.

The arrangement and method of using this table is in every respect similar to the last.

Example 8. Given the length of a line in a survey, 47,25·6 links. Required its equivalent in feet and decimals.

Ch. Lks.	Ft. Dec.
40	2640
7·25	478·50
·6	·396
47,25·6	3118·896 feet. *Ans.*

TABLE IV., *page* 95.

This table is calculated by the Formulæ xliii, page 116, of Mr. F. Baily's Astronomical Tables and Formulæ; the compression of the earth at the poles being assumed $\frac{1}{304}$, and the mean degree of latitude taken at 364547 feet. The first ten degrees of latitude and longitude, and afterwards every fifth degree, were computed by the Formulæ, the intermediate degrees being filled in by interpolation, by differences carried out as far as such could be done. The degrees of latitude are calculated for the latitudes of their middle points: for instance, the degree in the table on a line with the number 27 in the first column, is that degree which extends from lat. 26° 30′, to lat. 27° 30′, and in like manner of the rest. The degrees of longitude are computed for the parallels of latitude expressed by the numbers in the same line in the column designated "distance from the equator."

The use of this table is to convert the tabular traverses expressed in units of linear measure into their equivalent values of latitude and longitude *in arc: i. e.*, in degrees, minutes, seconds, &c., for that part of the earth's surface to which the traverses belong; but before exemplifying the processes in performing this reduction, it may be useful to give a few general remarks on the principles upon which such reductions depend.

In the explanation, given in the Introduction, of the adaptation of traverse tables to surveying, the surface of the earth, within the limits of each set of operations, has been considered as a plane, and the meridians as parallel straight lines; the relative lengths of the distance, difference of latitude, and departure, have been stated, not only to be accurately expressed by the three sides of a right-angled plane triangle, but to be truly projected by the construction of that triangle upon the map; both of these statements are, conformably with the hypothesis, strictly true, and boundary surveys or indeed maps of small extent, may be projected with sufficient accuracy for all practical purposes by the rules given in the text. In route surveys, also, where the general line lies near to a meridian or parallel of latitude, the results so obtained approximate very nearly to the truth; but where a considerable extent of country has to be mapped, or where the general line of a survey traversing the meridians at an oblique angle has to be represented, we are compelled to abandon our hypothesis,—the convergence of the meridians being sensible in extensive maps on any part of the earth's surface, but in a much greater degree in the higher latitudes than near to the equator; therefore, while we may still consider each individual station to be correctly projected by the intersection of co-ordinates from the nearest meridian and parallel of latitude on a map, if we only take the necessary precaution in the field of correcting our bearings, whether true or magnetic, by observation, as often as the inclination of the meridians becomes sufficient to require it to be done,—still, a correction will be necessary to convert the departure between any two distant stations, as obtained by the traverse tables, into the equivalent difference of longitude *in arc* between the same places. A similar correction would be necessary in the tabular differences of latitude, but that the variation in the length of those degrees of latitude lying near to each other is so small as to be incapable of representation, excepting in maps of very large scale, and extending over great portions of the earth's surface.

To obtain the difference of latitude and the departure for any bearing and distance, with perfect accuracy, by the traverse tables, it is essential that the distance should be an oblique rhumb line; *i. e.*, a portion of a spiral cutting all the meridians over which it passes at the same angle; but where the lines are so short, as in a survey is generally the case, the difference between the lengths of a straight line, a circular arc, or a rhumb line, drawn between any two stations, is inappreciable, and we may therefore consider our station lines as so many rhumb lines; and, consequently, the difference of latitude and the departures between any two distant places, as deduced from the intermediate lines in a survey, to be the same as if it had been obtained from a rhumb distance measured between those places.

The departure and difference of longitude have, in the rules given for applying the traverse tables, been considered as identical; and this also, conformably with the hypothesis above-mentioned, is strictly the case. The meridians are not, however, really parallel, though within short distances they may be so considered in practice, but converge towards the poles; and the degrees of longitude, instead of being equal, as they are assumed to be in the theory of the parallelism of the meridians, decrease in the same direction: therefore the departure and difference of longitude cannot any longer be considered as identical; for an equal amount of departure, *i.e.*, the same number of linear units, will measure different arcs of longitude, according to the distance from the equator at which the departure may be reckoned. Thus, at the equator, a departure = 6086 feet measures one minute of longitude, whereas at 89° it measures nearly a degree, and proportionately at all intermediate stages. In measuring an oblique distance, therefore, it is evident that, supposing the distance to be divided into a number of infinitely small parts or increments, the amount of departure due to each increment ought to be reckoned in arc of longitude at its own distance from the equator, and that the departure for the whole distance when converted into longitude, will equal the sums of all the elementary arcs of longitude of each increment in the distance. On moving from the equator towards the poles, these elementary arcs will be continually decreasing, and the contrary in travelling from the poles towards the equator; but there will be a certain point between the two extremities of each distance, or a certain *mean parallel of latitude*, upon which, if the *whole* departure be reckoned, it will express the true difference of longitude between the two extremities of that distance. This mean parallel is always higher than the *middle* parallel between those extremes, but in the construction of maps, where the measured distances are short, and the intervals between which the reduction of departure into longitude takes place are small, it will give results sufficiently near to the truth if we reckon the departure upon the *middle* parallel between the two extreme points of any distance.

If the figure of the earth were truly spherical all degrees of latitude would be equal, while the degrees of longitude would decrease in the direct ratio of the cosine of the distance from the equator; but, owing to the spheroidal figure of the earth, the degrees of latitude are not equal, but increase from the equator to the poles, the degrees of longitude decreasing in that direction in a ratio slightly different from that mentioned above. The greatest difference between any two successive degrees of latitude, which occurs about 45° from the equator, is 63 feet, or 1·05 feet in one minute, being rather less than 11 inches in one mile. This difference decreases both towards the equator and poles, and is too small to require the attention of the practical man, unless when his operations extend over a surface of many degrees: but in longitude the difference increases from 56 feet between the equatorial and first degrees, to 6393 feet at the poles; and, therefore, though not very sensible at first, it soon becomes so, even through the minutes and seconds of each degree.

I shall now show the use and application of Table IV. in the reduction of traverses, taking as examples the reductions entered in the column of remarks in the table at page xxvii.

Example 9. Required the difference of latitude and of longitude *in arc* between Hatras and Duriapoor, and the true latitude and longitude of the latter place, the tabular traverses being N. 3 M, 1 flg, 919 3 lks., and 4 M. 0 flg. 864·8 lks. E.; the latitude of Hatras being N. 27° 36′, and its longitude 78° 04′ E.

Reduce the tabular traverses to feet: divide the tabular difference of latitude so reduced by the value of one minute or second of latitude in a line with the number corresponding nearest to the latitude of the starting point, in the column designated "distance from the equator;" and the quotient will be the difference of latitude required *in arc*. Add to or subtract this difference from the latitude of the starting point, according as it may be of the same or of a different denomination, and it will give the true latitude of the place required. Take the middle latitude between the starting point and that for which the difference of longitude is required, and correct the value of one minute or second in the table, for the number in the column designated "distance from equator," corresponding nearest to that of the middle latitude. Divide the tabular difference of longitude reduced to feet by the corrected value of one minute or second, and the quotient will give the difference of longitude *in arc* required; which being added to, or subtracted from, the longitude (from Greenwich) of the starting point as above, will give the true longitude of the place required.

		Feet.
Three miles .	. =	5840
One furlong .	. =	660
919 links (Table III.)	=	606·54
·3 ditto, (ditto)	=	·198
Reduced diff. lat.	N.	17106·738

		Feet.
Four miles .	=	21120
864 links (Table III.)	. =	570·24
·8 ditto, (ditto)	. =	·528
Reduced diff. long. .		21690·768 E.

Lat. of Hatras N. 27° 36′; value of 1′ of lat. for No 28, in Table IV = 6059·1 and 17106·738 ÷ 6059·1 gives 02′·8233, or N. 02′ 49″·40 nearly, for the diff. of latitude *in arc*, which added to the latitude of the starting point (being of the same denomination) gives N. 27° 36′ + N. 02′ 49″·40, or N. 27° 38′ 49″·40 for the true latitude of Duriapoor

Again, for the difference of longitude in arc:

Latitude of Hatras . . .	N.	27° 36′
Half diff. of lat. of Duriapoor . . .	N.	01·41165
Middle latitude .	N.	27° 37·41165

Value of 1′ of longitude for No. 27, Table IV. . .	5426·2
Ditto No. 28, ditto . .	5377·3
Difference for 1° .	— 48·9

Now 1°, or 60′ : — 48·9 feet :: 37·41165′ :— 30·49, and 5426·2 — 30·49 = 5395·71 feet, value 1′ of longitude to middle latitude: then, using this number as a divisor, we shall have the tabular difference of longitude reduced to feet 21690·768÷5395·71 = 4′·0200 or 04′ 01·20″ E., the difference of longitude *in arc*, which added (as above) to the longitude (east of Greenwich) of Hatras (78° 04′) gives 78° 08′ 01·20″ E. for the true longitude of Duriapoor.

In a similar manner are to be obtained the differences of latitude and longitude between Duriapoor and Tikaree in the Table, page xxvii, as entered in the column of remarks, the true latitude and longitude of which will be determined from that of Duriapoor, as were those of Duriapoor and Hatras, in the foregoing example, thus:—

		°	′	″		°	′	″	
Duriapoor, lat .	N.	27	38	49·40	Long. . .	78	08	01·20	E.
Tikaree diff. .	N.		03	01·39	Diff. . .		03	30·67	E.
True lat.	N.	27	41	50·79	True long.	78	11	31·87	E.

Tables V. & VI., *page* 96,

Have been calculated with a view to explain the text, page ix.; *i.e.* to point out the difference between plane or right line and spherical traverses. In Table V. the distance is constant, and in Table VI. the bearing; and, in both, the traverses are worked out as well by spherical trigonometry as by the tables. The errors of the tabular traverses are shown in both; and in Table V. two columns of multipliers, for the correction of the tabular error, are added, which may be applied as follows:—

Example 10. Required the correction for the tabular traverses to bearing 35°, distance 364547 feet, to obtain the true spherical traverses.

Multiply the tabular differences of latitude and the departures, each by the number in the corresponding column of multipliers at the end of the Table, and apply the product to the tabular traverses, according to the sign prefixed to the multipliers, which will give the true spherical traverses as required.

Tabular D. lat . . = 298618·77 × + ·0000356 = + 10·63 correction.
Correction . . = + 10·63

True spherical . 298629·40 diff. of latitude required

Tabular departure. 209094·55 × − ·0000364 = − 7·61 correction.
Correction . . − 7·61

True spherical . 209086·94 departure required.

To render such tables generally applicable it would be necessary to extend Table V. to all such distances as usually occur in practice, and to bearings at least for each single degree ; but it will appear by Table VI., as also by what has been said at page ix of the Introduction, that the differences between the tabular and spherical traverses are so small for such lines as occur in practice that they do not merit our attention.

The following Theorems will explain the principles of surveying, plotting, and calculating Areas by the Traverse Table.

THEOREM I.*

IN any polygon any one side is equal to the sum of all the rectangles of each of the other sides drawn into the cosine of the angle made by that side with the proposed side.

Let ABCDEF (Fig. 12) be a polygon; then will $AF = AB \cos. A + BC. \cos CB \vartriangle AF + CD \cos. CD \vartriangle AF. + DE \cos. DE \vartriangle AF + EF \cos. EF \vartriangle AF.$

For, drawing lines from the several angles respectively parallel and perpendicular to AF, it will be

$$\begin{aligned} Ab &= \ AB . \cos. BAF \\ bc &= Bb' = BC . \cos. CBb' = BC \cos. CB \vartriangle AF, \\ cd &= d'D = CD . \cos\ CDd' = CD \cos. CD \vartriangle AF, \\ de &= e'E = DE . \cos. DEe' = DE \cos. DE \vartriangle AF, \\ eF &= \ EF . \cos. EFe = EF \cos. EF \vartriangle AF. \end{aligned}$$

But $AF = bc + cd + de + eF - Ab$, and Ab, as expressed above, is in effect subtractive, because the cosine of the obtuse angle BAF is negative, consequently,

$$AF = Ac + cd + de + eF = Ab . \cos\ BAF + BC . \cos\ CB \vartriangle AF . + \&c.,$$

as in the proposition. A like demonstration will apply, *mutatis mutandis*, to any other polygon.

Cor. 1. In like manner the portion of any side contained between either of its extremities and a perpendicular drawn from any angle to that side is equal to the sum of the rectangles of each of those sides lying between the perpendicular and the extremity drawn into the cosine of the angle made by that side with the given side, *i. e.*,

$$Ad = Ab . \cos. BAF . + BC . \cos. CB \vartriangle AF . + CD . \cos. DC \vartriangle AF.$$

---

* This and the following Theorem are taken from the 3rd volume of Dr. Hutton's Course of Mathematics, Art. Polygonometry, page 161, to which the reader is referred for much useful information on this subject.

Cor. 2. If a straight line be drawn through a polygon in any direction, the same will be true of that portion of the straight line contained within the polygon as of any other side; and hence we obtain the first part of the rule for plotting or protracting by the method of co-ordinates given at page xix of the Introduction.

THEOREM II.

The perpendicular let fall from the highest point or summit of a polygon upon the opposite side or base, is equal to the sum of the products of the sides comprised between the summit andthe base, into the sines of their respective inclinations to that base.

Thus, in the preceding figure $Cc = CB \,.\, \sin.\, CB \triangle FA + BA \sin.\, A$, or

$$Cc = CD \,.\, \sin.\, CD \triangle AF \,. + DE \sin.\, DE \triangle AF + EF \,.\, \sin.\, F.$$

as is evident from an inspection of the figure.

Cor. 1. In like manner, $Dd = DE \,.\, \sin.\, DE \triangle AF. + EF \,.\, \sin.\, F$, or $Dd = CB.\, \sin.\, CB \triangle FA. + BA.\, \sin.\, A - CD \,.\, \sin.\, CD \triangle AF.$

Cor. 2. If a straight line be drawn through a polygon in any direction, the same will be true as regards that portion of the straight line contained within the polygon as of any other side, and hence we obtain the second part of the rule for plotting or protracting by the method of co-ordinates above referred to.

THEOREM III.*

If there be any polygon and an indefinite straight line lying without the same, and if lines be drawn from the extremities of each side of the polygon perpendicular to that line, then reckoning the sides from any one angle round the polygon, either in direct or inverse order, and calling those sides positive which lie in one direction, as ascending, and those sides negative which lie in a contrary direction, *i. e.* descending, or the reverse,—twice the area of the polygon will be equal to the differences between the sums of the products of the perpendiculars from each positive side multiplied by the natural cosine of the inclination of that side with the indefinite straight line, and the sums of the products of the perpendiculars from each negative side into the natural cosine of the inclination of that side with the indefinite straight line.

Let A B C D E F G H A (Fig. 4) be any polygon; N S an indefinite straight line, which is here drawn to touch the polygon at the point D. Draw perpendiculars H*h*, A*a*, B*b*, &c. from the extremities of each side; *i. e.* from all the angles of the polygon meeting the indefinite line N S, in the points *h*, *a*, *b*, &c.; then will the portions *ha*, *ab*, *bc*, *c*D, &c., of the line NS, intercepted between the perpendiculars from each side, represent the cosines of the inclinations of the sides, HA, AB, BC, CD, &c., with the line NS. The sides, AB, DE, FG, GH, which lie in a direction ascending, in order of enumeration, will be positive; and the sides, BC, CD, EF, HA, which lie in a direction descending, will be negative.

Now it is evident, by an inspection of the figure that the area of the polygon ABCDEFGHA is equal to the area of the whole figure, or polygon *h f* F G H *h*, less the area of that portion of it forming the polygon *hf* F E D C B A H *h*: but the area of the whole polygon *hf* F G H *h* is equal to the sums of the areas of the trapezoids *h g* G H + *g f* F G. And the area of the polygon hf F E D C B A H h is equal to the sums of the areas of the trapezoids (ha AH—ba A B) + bc C B + c D C + (ef F E—e D E); but twice the areas of the trapezoids are severally as follows: viz.

---

* This Theorem is the same in effect with that given in Adams's Geometrical and Graphical Essays, 8vo., 1803, page 332, and commonly known as Gale's Universal Theorem, but it is expressed in more general terms.

Twice the area of hg G H $= (Hh + Gg) \times gh$.
Twice . gf FG $= (Gg + Ff) \times fg$; also,
Twice the area of ha A H — ba A B $= (Hh + Aa) \times ha - (Bb + Aa) \times ab$.
Twice . bc C B . $= (Bb + Cc) \times bc$
Twice . c D C . $= Cc \times cD$
Twice . ef F E — e D E $= (Ee + Ff) \times ef - Ee \times De$.

Therefore, subtracting the last set of areas from the first, and arranging all the positive areas together, it will be,

Twice the area of the polygon A B C D E F G H A,

$$=\left((Hh + Gg) \times gh + \overline{(Gg + Ff) \times fg} + \overline{(Bb + Aa) \times ab} + \overline{(Ee \times De)} \right)$$
$$-\left(\overline{(Hh + Aa) \times ha} + \overline{(Bb + Cc) \times bc} + \overline{Cc \times cD} + \overline{(Ee + Ff) \times ef} \right)$$

Q.E.D.

Again:—

In Fig. 5 it may be proved that twice the area of the polygon ABCDEFGHA is equal to the sums of the areas $\left((Aa + Hh) \times ah + (Hh + Gg) \times gh + (Gg + Ff) \times fg + (Ff + Ee) \times ef) \right) - \left((Aa + Bb) \times ab + (Bb + Cc) \times bc + (Cc \times cD + Ee \times De \right)$; and in like manner of any other polygon.

If the line NS be a meridian, then will the several perpendiculars (within a limited distance on the earth's surface) represent the departures of the extremities of the sides from the meridian, and the portions of the line NS intercepted between the perpendiculars will equal the differences of latitude between them, whence we deduce the rule for the calculation of areas by the traverse table, as explained at pages xx *et seq.* of the Introduction.

Also, by taking any side of a polygon which, being produced, will not cut any of the other sides, and by drawing perpendiculars from all the angles of the polygon to that side, or to a line produced in the direction of that side, the above theorem furnishes the rule for finding the area, independent of the meridian, and affords a very useful practical method of determining the content of a boundary survey, as has been explained in the Introduction at page xxiv.

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TRAVERSE TABLES.

DEG. 0.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
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5		5·00000	0·00145		4·99999	0·00290		4·99999	0·00436		4·99999	0·00581		4·99999	0·00727	5
6		6·00000	0·00174		5·99999	0·00349		5·99999	0·00523		5·99999	0·00698		5·99999	0·00872	6
7		7·00000	0·00203		6·99999	0·00407		6·99999	0·00610		6·99999	0·00814		6·99999	0·01018	7
8		8·00000	0·00232		7·99999	0·00465		7·99999	0·00698		7·99999	0·00930		7·99999	0·01163	8
9		9·00000	0·00261		8·99999	0·00523		8·99999	0·00785		8·99999	0·01047		8·99999	0·01308	9
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D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M	Dep.	Lat.	D.

DEG. 89.

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3		2·99999	0·00523		2·99999	0·00610		2·99999	0·00698		2·99998	0·00785		2·99998	0·00872	3
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8		7·99998	0·01396		7·99998	0·01628		7·99997	0·01861		7·99997	0·02094		7·99996	0·02327	8
9		8·99998	0·01570		8·99998	0·01832		8·99997	0·02094		8·99996	0·02356		8·99996	0·02618	9
10	54	9·99998	0·01745	53	9·99998	0·02036	52	9·99997	0·02327	51	9·99996	0·02618	50	9·99995	0·02909	10
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2		1·99997	0·00930		1·99997	0·00989		1·99997	0·01047		1·99996	0·01105		1·99996	0·01163	2
3		2·99996	0·01396		2·99996	0·01483		2 99995	0·01570		2·99995	0·01658		2·99994	0·01745	3
4		3·99995	0·01861		3·99995	0·01978		3·99994	0·02094		3·99993	0·02210		3 99993	0·02327	4
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6		5·99993	0·02792		5·99992	0·02967		5·99991	0·03141		5·99990	0·03316		5·99989	0·03490	6
7		6·99992	0·03257		6·99991	0·03461		6·99990	0·03665		6·99989	0·03868		6·99988	0·04072	7
8		7·99991	0·03723		7·99990	0·03956		7·99989	0·04188		7·99987	0·04421		7·99986	0·04654	8
9		8·99990	0·04188		8·99989	0·04450		8·99987	0·04712		8·99986	0·04974		8·99984	0·05235	9
10	44	9·99989	0·04654	43	9·99987	0·04945	42	9·99986	0·05236	41	9·99984	0·05526	40	9·99983	0·05817	10
1	26	0·99997	0·00756	27	0·99996	0·00785	28	0·99996	0·00814	29	0·99996	0·00843	30	0·99996	0·00872	1
2		1·99994	0·01512		1·99993	0·01570		1·99993	0·01628		1·99992	0·01687		1·99992	0·01745	2
3		2·99991	0·02268		2·99990	0·02356		2·99990	0·02443		2·99989	0·02530		2·99988	0·02617	3
4		3·99988	0·03025		3·99987	0·03141		3·99986	0·03257		3·99985	0·03374		3·99984	0·03490	4
5		4·99985	0·03781		4·99984	0·03927		4·99983	0·04072		4·99982	0·04217		4·99981	0·04363	5
6		5·99982	0·04537		5·99981	0·04712		5·99980	0·04886		5 99978	0·05061		5·99977	0·05235	6
7		6·99979	0·05294		6·99978	0·05497		6·99976	0·05701		6·99975	0·05904		6·99973	0·06108	7
8		7·99977	0·06050		7·99975	0·06283		7·99973	0·06515		7·99971	0·06748		7·99969	0·06981	8
9		8·99974	0 06806		8·99972	0 07068		8·99970	0·07330		8·99967	0·07592		8·99965	0·07853	9
10	34	9·99971	0·07563	33	9·99969	0·07854	32	9·99966	0·08144	31	9·99964	0·08435	30	9·99962	0·08726	10
1	36	0·99994	0·01047	37	0·99994	0·01076	38	0·99993	0·01105	39	0·99993	0·01134	40	0·99993	0·01163	1
2		1·99989	0·02094		1·99988	0·02152		1·99987	0·02210		1·99987	0·02268		1·99986	0·02327	2
3		2·99983	0·03141		2·99982	0·03228		2·99981	0·03316		2·99980	0·03403		2·99979	0·03490	3
4		3·99978	0·04188		3·99976	0·04305		3·99975	0·04421		3·99974	0·04537		3·99972	0·04654	4
5		4·99972	0·05235		4·99971	0·05381		4·99969	0·05526		4·99967	0·05672		4·99966	0·05817	5
6		5·99967	0·06283		5·99965	0·06457		5·99963	0·06632		5·99961	0·06806		5·99959	0·06981	6
7		6·99961	0·07330		6·99959	0·07533		6·99957	0·07737		6·99954	0·07941		6 99952	0·08144	7
8		7·99956	0·08377		7·99953	0·08610		7·99951	0·08842		7·99948	0·09075		7·99945	0·09308	8
9		8·99950	0·09424		8·99947	0·09686		8·99945	0·09948		8·99942	0·10209		8·99939	0·10471	9
10	24	9·99945	0·10471	23	9·99942	0·10762	22	9·99939	0·11053	21	9·99935	0·11344	20	9·99932	0·11635	10
1	46	0·99991	0·01338	47	0·99990	0·01367	48	0·99990	0·01396	49	0·99989	0·01425	50	0·99989	0·01454	1
2		1·99982	0·02676		1·99981	0·02734		1·99980	0·02792		1·99979	0.02850		1·99978	0·02908	2
3		2·99973	0·04014		2·99971	0·04101		2 99970	0·04188		2·99969	0·04275		2·99968	0·04363	3
4		3·99964	0·05352		3·99962	0·05468		3·99961	0·05584		3·99959	0·05701		3·99957	0·05817	4
5		4·99955	0·06690		4·99953	0·06835		4·99951	0·06981		4·99949	0·07126		4·99947	0·07272	5
6		5·99946	0·08028		5·99943	0·08202		5·99941	0·08377		5·99939	0·08551		5·99936	0·08726	6
7		6·99937	0·09366		6·99934	0·09569		6·99931	0·09773		6·99928	0·09977		6·99925	0·10180	7
8		7·99928	0·10704		7·99925	0·10937		7·99922	0·11169		7·99918	0·11402		7·99915	0·11635	8
9		8·99919	0·12042		8·99915	0·12304		8·99912	0·12565		8·99908	0·12827		8·99904	0·13089	9
10	14	9·99910	0·13380	13	9·99906	0·13671	12	9·99902	0·13962	11	9·99898	0·14253	10	9·99894	0·14544	10
1	56	0·99986	0·01628	57	0 99986	0·01658	58	0·99985	0·01687	59	0·99985	0·01716	60	0·99984	0·01745	1
2		1·99973	0·03257		1·99972	0·03316		1·99971	0·03374		1·99970	0·03432		1·99969	0·03490	2
3		2·99960	0·04886		2·99958	0·04974		2·99957	0·05061		2·99955	0·05148		2·99954	0·05235	3
4		3·99946	0·06515		3·99945	0·06632		3·99943	0·06748		3·99941	0.06864		3·99939	0·06980	4
5		4·99933	0·08144		4·99931	0·08290		4·99928	0·08435		4·99926	0·08580		4·99923	0·08726	5
6		5·99920	0·09773		5·99917	0·09948		5·99914	0·10122		5·99911	0·10296		5·99908	0·10471	6
7		6·99907	0·11402		6·99903	0·11606		6·99900	0·11809		6·99896	0·12013		6·99893	0·12216	7
8		7·99893	0·13031		7·99890	0·13264		7·99886	0·13496		7 99882	0·13729		7·99878	0·13961	8
9		8·99880	0·14660		8·99876	0·14922		8.99871	0·15183		8·99867	0·15445		8·99862	0·15707	9
10	04	9·99867	0·16289	03	9·99862	0·16580	02	9·99857	0·16870	01	9·99852	0 17161	00	9·99847	0·17452	10
D.	M.	Dep.	Lat.	M.	Dep	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

4

89 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·99984	0·01774	02	0·99983	0·01803	03	0·99983	0·01832	04	0·99982	0·01861	05	0·99982	0·01890	1
2		1·99968	0·03548		1·99967	0·03606		1·99966	0·03665		1·99965	0·03723		1·99964	0·03781	2
3		2·99952	0·05322		2·99951	0·05410		2·99949	0·05497		2·99948	0·05584		2·99946	0·05671	3
4		3·99937	0·07097		3·99934	0·07213		3·99932	0·07330		3·99930	0·07446		3·99928	0·07562	4
5		4·99921	0·08871		4·99918	0·09017		4·99916	0·09162		4·99913	0·09307		4·99910	0·09453	5
6		5·99905	0·10645		5·99902	0·10820		5·99899	0·10995		5·99896	0·11169		5·99892	0·11343	6
7		6·99889	0·12420		6·99886	0·12623		6·99882	0·12827		6·99878	0·13031		6·99874	0·13234	7
8		7·99874	0·14194		7·99869	0·14427		7·99865	0·14660		7·99861	0·14892		7·99857	0·15125	8
9		8·99858	0·15968		8·99853	0·16230		8·99848	0·16492		8·99844	0·16754		8·99839	0·17015	9
10	59	9·99842	0·17743	58	9·99837	0·18034	57	9·99832	0·18325	56	9·99826	0·18615	55	9·99821	0·18906	10
1	11	0·99978	0·02065	12	0·99978	0·02094	13	0·99977	0·02123	14	0·99976	0·02152	15	0·99976	0·02181	1
2		1·99957	0·04130		1·99956	0·04188		1·99954	0·04246		1·99953	0·04304		1·99952	0·04363	2
3		2·99936	0·06195		2·99934	0·06282		2·99932	0·06369		2·99930	0·06457		2·99928	0·06544	3
4		3·99914	0·08260		3·99912	0·08376		3·99909	0·08493		3·99907	0·08609		3·99904	0·08725	4
5		4·99893	0·10325		4·99890	0·10471		4·99887	0·10616		4·99884	0·10762		4·99881	0·10907	5
6		5·99872	0·12390		5·99868	0·12565		5·99864	0·12739		5·99860	0·12914		5·99857	0·13089	6
7		6·99850	0·14456		6·99846	0·14659		6·99842	0·14863		6·99837	0·15066		6·99833	0·15270	7
8		7·99829	0·16521		7·99824	0·16753		7·99819	0·16986		7·99814	0·17219		7·99809	0·17452	8
9		8·99808	0·18586		8·99802	0·18848		8·99797	0·19109		8·99791	0·19371		8·99785	0·19633	9
10	49	9·99786	0·20651	48	9·99780	0·20942	47	9·99774	0·21233	46	9·99768	0·21524	45	9·99762	0·21815	10
1	21	0·99972	0·02356	22	0·99971	0·02385	23	0·99970	0·02414	24	0·99970	0·02443	25	0·99969	0·02472	1
2		1·99944	0·04712		1·99943	0·04770		1·99941	0·04828		1·99940	0·04886		1·99938	0·04944	2
3		2·99916	0·07068		2·99914	0·07155		2·99912	0·07242		2·99910	0·07329		2·99908	0·07416	3
4		3·99888	0·09423		3·99886	0·09540		3·99883	0·09656		3·99880	0·09772		3·99877	0·09889	4
5		4·99861	0·11780		4·99857	0·11925		4·99854	0·12070		4·99850	0·12216		4·99847	0·12361	5
6		5·99833	0·14136		5·99829	0·14310		5·99825	0·14484		5·99820	0·14659		5·99816	0·14833	6
7		6·99805	0·16492		6·99800	0·16695		6·99796	0·16898		6·99791	0·17102		6·99786	0·17306	7
8		7·99777	0·18848		7·99772	0·19080		7·99766	0·19313		7·99761	0·19545		7·99755	0·19778	8
9		8·99750	0·21204		8·99744	0·21465		8·99737	0·21727		8·99731	0·21988		8·99724	0·22250	9
10	39	9·99722	0·23560	38	9·99715	0·23850	37	9·99708	0·24141	36	9·99701	0·24432	35	9·99694	0·24723	10
1	31	0·99965	0·02646	32	0·99964	0·02675	33	0·99963	0·02704	34	0·99962	0·02734	35	0·99961	0·02763	1
2		1·99930	0·05293		1·99928	0·05351		1·99926	0·05409		1·99925	0·05468		1·99923	0·05526	2
3		2·99895	0·07940		2·99892	0·08027		2·99890	0·08114		2·99887	0·08202		2·99885	0·08289	3
4		3·99860	0·10587		3·99856	0·10703		3·99853	0·10819		3·99850	0·10936		3·99847	0·11052	4
5		4·99825	0·13233		4·99821	0·13379		4·99817	0·13524		4·99813	0·13669		4·99809	0·13815	5
6		5·99790	0·15880		5·99785	0·16055		5·99780	0·16229		5·99775	0·16404		5·99770	0·16578	6
7		6·99755	0·18527		6·99749	0·18730		6·99743	0·18934		6·99738	0·19138		6·99732	0·19341	7
8		7·99720	0·21174		7·99713	0·21406		7·99707	0·21639		7·99700	0·21872		7·99694	0·22104	8
9		8·99685	0·23820		8·99677	0·24082		8·99670	0·24344		8·99663	0·24606		8·99656	0·24867	9
10	29	9·99650	0·26467	28	9·99642	0·26758	27	9·99634	0·27049	26	9·99626	0·27340	25	9·99618	0·27631	10
1	41	0·99956	0·02937	42	0·99956	0·02966	43	0·99955	0·02995	44	0·99954	0·03024	45	0·99953	0·03053	1
2		1·99913	0·05875		1·99912	0·05933		1·99910	0·05991		1·99908	0·06049		1·99906	0·06107	2
3		2·99870	0·08812		2·99868	0·08899		2·99865	0·08987		2·99862	0·09074		2·99860	0·09161	3
4		3·99827	0·11750		3·99824	0·11866		3·99820	0·11982		3·99816	0·12099		3·99813	0·12215	4
5		4·99784	0·14687		4·99780	0·14833		4·99775	0·14978		4·99771	0·15123		4·99766	0·15269	5
6		5·99741	0·17625		5·99736	0·17799		5·99730	0·17974		5·99725	0·18148		5·99720	0·18323	6
7		6·99697	0·20562		6·99692	0·20766		6·99685	0·20969		6·99679	0·21173		6·99673	0·21376	7
8		7·99654	0·23500		7·99648	0·23732		7·99640	0·23965		7·99633	0·24198		7·99626	0·24430	8
9		8·99611	0·26437		8·99604	0.26699		8·99596	0·26961		8·99588	0·27223		8·99580	0·27484	9
10	19	9·99568	0·29375	18	9·99560	0·29666	17	9·99551	0·29957	16	9·99542	0·30247	15	9·99533	0·30538	10
1	51	0·99947	0·03228	52	0·99946	0·03257	53	0·99946	0·03286	54	0·99945	0·03315	55	0·99944	0·03344	1
2		1·99895	0·06456		1·99893	0·06514		1·99892	0·06572		1·99890	0·06631		1·99888	0·06689	2
3		2·99843	0·09684		2·99840	0·09772		2·99838	0·09859		2·99835	0·09946		2·99832	0·10033	3
4		3·99791	0·12913		3·99787	0·13029		3·99784	0·13145		3·99780	0·13262		3·99776	0·13378	4
5		4·99739	0·16141		4·99734	0·16286		4·99730	0·16432		4·99725	0·16577		4·99720	0·16723	5
6		5·99687	0·19369		5·99681	0·19544		5·99676	0·19718		5·99670	0·19893		5·99664	0·20067	6
7		6·99635	0·22598		6·99628	0·22801		6·99622	0·23005		6·99615	0·23208		6·99608	0·23412	7
8		7·99583	0·25826		7·99575	0·26058		7·99568	0·26291		7·99560	0·26524		7·99552	0·26756	8
9		8·99530	0·29054		8·99522	0·29316		8·99514	0·29577		8·99505	0·29839		8·99496	0·30101	9
10	09	9·99478	0·32283	08	9·99469	0·32573	07	9·99460	0·32864	06	9·99450	0·33155	05	9·99440	0·33446	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

1 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·99981	0·01919	07	0·99981	0·01948	08	0·99980	0·01977	09	0·99979	0·02007	10	0·99979	0·02036	1
2		1·99963	0·03839		1·99962	0·03897		1·99960	0·03955		1·99959	0·04014		1·99958	0·04072	2
3		2·99944	0·05759		2·99943	0·05846		2·99941	0·05933		2·99939	0·06021		2·99937	0·06108	3
4		3·99926	0·07678		3·99924	0·07795		3·99921	0·07911		3·99919	0·08028		3·99917	0·08144	4
5		4·99907	0·09598		4·99905	0·09744		4·99902	0·09889		4·99899	0·10035		4·99896	0·10180	5
6		5·99889	0·11518		5·99886	0·11692		5·99882	0·11867		5·99879	0·12042		5·99875	0·12216	6
7		6·99870	0·13438		6·99867	0·13641		6·99863	0·13845		6·99859	0·14049		6·99854	0·14252	7
8		7·99852	0·15357		7·99848	0·15590		7·99843	0·15823		7·99838	0·16056		7·99834	0·16288	8
9		8·99834	0·17277		8·99829	0·17539		8·99823	0·17801		8·99818	0·18063		8·99813	0·18324	9
10	54	9·99815	0·19197	53	9·99810	0·19488	52	9·99804	0·19779	51	9·99798	0·20070	50	9·99792	0·20360	10
1	16	0·99975	0·02210	17	0·99974	0.02239	18	0·99974	0·02268	19	0·99973	0·02297	20	0·99972	0·02326	1
2		1·99951	0·04421		1·99949	0·04479		1·99948	0·04537		1·99947	0·04595		1·99945	0·04653	2
3		2·99926	0·06631		2·99924	0·06718		2·99922	0·06806		2·99920	0·06893		2·99918	0·06980	3
4		3·99902	0·08842		3·99899	0·08958		3·99897	0·09074		3·99894	0·09191		3·99891	0·09307	4
5		4·99877	0·11052		4·99874	0·11198		4·99871	0·11343		4·99868	0·11489		4·99864	0·11634	5
6		5·99853	0·13263		5·99849	0·13437		5·99845	0·13612		5·99841	0·13786		5·99837	0·13961	6
7		6·99828	0·15473		6·99824	0·15677		6·99819	0·15881		6·99815	0·16084		6·99810	0·16288	7
8		7·99804	0·17684		7·99799	0·17917		7·99794	0·18149		7·99788	0·18382		7·99783	0·18615	8
9		8·99780	0·19895		8·99774	0·20156		8·99768	0·20418		8·99762	0·20680		8·99756	0·20942	9
10	44	9·99755	0·22105	43	9·99749	0·22396	42	9·99742	0·22687	41	9·99736	0·22978	40	9·99729	0·23269	10
1	26	0·99968	0·02501	27	0·99968	0·02530	28	0·99967	0·02559	29	0·99966	0·02588	30	0·99965	0·02617	1
2		1·99937	0·05002		1·99936	0·05060		1·99934	0·05119		1·99933	0·05177		1·99931	0·05235	2
3		2·99906	0·07504		2·99904	0·07591		2·99901	0·07678		2·99899	0·07765		2·99897	0·07853	3
4		3·99874	0·10005		3·99872	0·10121		3·99868	0·10238		3·99866	0·10354		3·99862	0·10470	4
5		4·99843	0·12506		4·99840	0·12652		4·99836	0·12797		4·99832	0·12943		4·99828	0·13088	5
6		5·99812	0·15008		5·99808	0·15182		5·99803	0·15357		5·99799	0·15531		5·99794	0·15706	6
7		6·99780	0·17509		6·99776	0·17713		6·99770	0·17916		6·99765	0·18120		6·99760	0·18323	7
8		7·99749	0·20011		7·99744	0·20243		7·99737	0·20476		7·99732	0·20708		7·99725	0·20941	8
9		8·99718	0·22512		8·99712	0·22774		8·99705	0·23035		8·99698	0·23297		8·99691	0·23559	9
10	34	9·99687	0·25013	33	9·99680	0·25304	32	9·99672	0·25595	31	9·99665	0·25886	30	9·99657	0·26177	10
1	36	0·99961	0·02792	37	0·99960	0·02821	38	0·99959	0·02850	39	0·99958	0·02879	40	0·99957	0·02908	1
2		1·99922	0·05584		1·99920	0·05642		1·99918	0·05700		1·99917	0·05758		1·99915	0·05816	2
3		2.99883	0·08376		2·99880	0·08463		2·99878	0·08550		2·99875	0·08638		2·99873	0·08725	3
4		3·99844	0·11168		3·99840	0·11284		3·99837	0·11401		3·99834	0·11517		3·99830	0·11633	4
5		4·99805	0·13960		4·99801	0·14106		4.99796	0·14251		4·99792	0·14397		4·99788	0·14542	5
6		5·99766	0·16752		5·99761	0·16927		5·99756	0·17101		5·99751	0·17276		5·99746	0·17450	6
7		6·99727	0·19545		6·99721	0·19748		6·99715	0·19952		6·99709	0·20155		6·99703	0·20359	7
8		7·99688	0·22337		7·99681	0·22569		7·99674	0·22802		7·99668	0·23035		7·99661	0·23267	8
9		8·99649	0·25129		8·99641	0·25391		8·99634	0·25652		8·99626	0·25914		8·99619	0·26176	9
10	24	9·99610	0·27921	23	9·99602	0·28212	22	9·99593	0·28503	21	9·99585	0·28794	20	9·99577	0·29084	10
1	46	0·99952	0·03082	47	0·99951	0·03112	48	0·99950	0·03141	49	0·99949	0·03170	50	0·99948	0·03199	1
2		1·99904	0·06165		1·99903	0·06224		1·99901	0·06282		1·99899	0·06340		1·99897	0·06398	2
3		2·99857	0·09248		2·99854	0·09336		2·99851	0·09423		2·99849	0·09510		2·99846	0·09597	3
4		3·99809	0·12331		3·99806	0·12448		3·99802	0·12564		3·99798	0·12680		3·99795	0·12796	4
5		4·99762	0·15414		4·99757	0·15560		4·99753	0·15705		4·99748	0·15850		4·99744	0·15996	5
6		5·99714	0·18497		5·99709	0·18672		5·99703	0·18846		5·99698	0·19020		5·99692	0·19195	6
7		6·99667	0·21580		6·99660	0·21784		6·99654	0·21987		6·99648	0·22191		6·99641	0·22394	7
8		7·99619	0·24663		7·99612	0·24896		7·99605	0·25128		7·99597	0·25361		7·99590	0·25593	8
9		8·99572	0·27746		8·99564	0·28008		8·99555	0·28269		8·99547	0·28531		8·99539	0·28792	9
10	14	9·99524	0·30829	13	9·99515	0·31120	12	9·99506	0·31410	11	9.99497	0·31701	10	9·99488	0·31992	10
1	56	0·99943	0·03373	57	0·99942	0·03402	58	0·99941	0·03431	59	0·99940	0·03460	60	0·99939	0·03490	1
2		1·99886	0·06747		1·99884	0·06805		1·99882	0·06863		1·99880	0·06921		1·99878	0·06980	2
3		2·99829	0·10120		2·99826	0·10208		2·99823	0·10295		2·99820	0·10382		2·99817	0·10470	3
4		3·99772	0·13494		3·99768	0·13610		3·99764	0·13727		3·99760	0·13843		3·99756	0·13960	4
5		4·99715	0·16868		4·99710	0·17013		4·99705	0·17159		4·99700	0·17304		4·99695	0·17450	5
6		5·99658	0·20241		5·99652	0·20416		5·99646	0·20590		5·99640	0·20765		5·99634	0·20940	6
7		6·99601	0·23615		6·99594	0·23819		6·99587	0·24022		6·99580	0.24226		6·99573	0·24430	7
8		7·99544	0·26989		7·99536	0·27221		7·99528	0·27454		7·99520	0·27687		7·99512	0·27920	8
9		8·99487	0·30362		8·99478	0·30624		8·99469	0·30886		8·99460	0·31147		8·99451	0·31410	9
10	04	9·99430	0·33736	03	9·99421	0·34027	02	9·99411	0·34318	01	9·99401	0·34608	00	9·99390	0·34900	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

88 DEG.

DEG. 2.

D	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·99938	0·03519	02	0·99937	0·03548	03	0·99936	0·03577	04	0·99935	0·03606	05	0·99933	0·03635	1
2		1·99876	0·07038		1·99874	0·07096		1·99872	0·07154		1·99870	0·07212		1·99867	0·07270	2
3		2·99814	0·10557		2·99811	0·10644		2·99808	0·10731		2·99805	0·10818		2·99801	0·10905	3
4		3·99752	0·14076		3·99748	0·14192		3·99744	0·14308		3·99740	0·14424		3·99735	0·14541	4
5		4·99690	0·17595		4·99685	0·17740		4·99680	0·17885		4·99675	0·18031		4·99669	0·18176	5
6		5·99628	0·21114		5·99622	0·21288		5·99616	0·21462		5·99610	0·21637		5·99603	0·21811	6
7		6·99566	0·24633		6·99559	0·24836		6·99552	0·25040		6·99545	0·25243		6·99537	0·25447	7
8		7·99504	0·28152		7·99496	0·28384		7·99488	0·28617		7·99480	0·28849		7·99471	0·29082	8
9		8·99442	0·31671		8·99433	0·31932		8·99424	0·32194		8·99415	0·32456		8·99405	0·32717	9
10	59	9·99380	0·35190	58	9·99370	0·35481	57	9·99360	0·35771	56	9·99350	0·36062	55	9·99339	0·36353	10
1	11	0·99927	0·03809	12	0·99926	0·03838	13	0·99925	0·03867	14	0·99924	0·03896	15	0·99922	0·03925	1
2		1·99854	0·07619		1·99852	0·07677		1·99850	0·07735		1·99848	0·07793		1·99845	0·07851	2
3		2·99782	0·11429		2·99778	0·11516		2·99775	0·11603		2·99772	0·11690		2·99768	0·11777	3
4		3·99709	0·15238		3·99705	0·15355		3·99700	0·15471		3·99696	0·15587		3·99691	0·15703	4
5		4·99637	0·19048		4·99631	0·19193		4·99625	0·19339		4·99620	0·19484		4·99614	0·19629	5
6		5·99564	0·22858		5·99557	0·23032		5·99551	0·23207		5·99544	0·23381		5·99537	0·23555	6
7		6·99491	0·26667		6·99484	0·26871		6·99476	0·27074		6·99468	0·27278		6·99460	0·27481	7
8		7·99419	0·30477		7·99410	0·30710		7·99401	0·30942		7·99392	0·31175		7·99383	0·31407	8
9		8·99346	0·34287		8·99336	0·34549		8·99326	0·34810		8·99316	0·35072		8·99306	0·35333	9
10	49	9·99274	0·38097	48	9·99263	0·38387	47	9·99251	0·38678	46	9·99240	0·38969	45	9·99229	0·39259	10
1	21	0·99915	0·04100	22	0·99914	0·04129	23	0·99913	0·04158	24	0·99912	0·04187	25	0·99911	0·04216	1
2		1·99831	0·08200		1·99829	0·08258		1·99827	0·08317		1·99824	0·08375		1·99822	0·08433	2
3		2·99747	0·12301		2·99744	0·12388		2·99740	0·12475		2·99736	0·12562		2·99733	0·12649	3
4		3·99663	0·16401		3·99658	0·16517		3·99654	0·16634		3·99649	0·16750		3·99644	0·16866	4
5		4·99579	0·20501		4·99573	0·20647		4·99567	0·20792		4·99561	0·20937		4·99555	0·21083	5
6		5·99495	0·24602		5·99488	0·24776		5·99481	0·24951		5·99473	0·25125		5·99466	0·25299	6
7		6·99411	0·28702		6·99402	0·28906		6·99394	0·29109		6·99385	0·29312		6·99377	0·29516	7
8		7·99327	0·32802		7·99317	0·33035		7·99308	0·33268		7·99298	0·33500		7·99288	0·33733	8
9		8·99243	0·36903		8·99232	0·37164		8·99221	0·37426		8·99210	0·37688		8·99199	0·37949	9
10	39	9·99159	0·41003	38	9·99147	0·41294	37	9·99135	0·41585	36	9·99122	0·41875	35	9·99111	0·42166	10
1	31	0·99903	0·04391	32	0·99902	0·04420	33	0·99900	0·04449	34	0·99899	0·04478	35	0·99898	0·04507	1
2		1·99807	0·08782		1·99804	0·08840		1·99801	0·08898		1·99799	0·08956		1·99796	0·09014	2
3		2·99710	0·13173		2·99706	0·13260		2·99702	0·13347		2·99699	0·13434		2·99695	0·13521	3
4		3·99614	0·17564		3·99609	0·17680		3·99603	0·17796		3·99598	0·17912		3·99593	0·18028	4
5		4·99517	0·21955		4·99511	0·22100		4·99504	0·22245		4·99498	0·22390		4·99491	0·22536	5
6		5·99421	0·26346		5·99413	0·26520		5·99405	0·26694		5·99398	0·26869		5·99390	0·27043	6
7		6·99324	0·30737		6·99315	0·30940		6·99306	0·31143		6·99297	0·31347		6·99288	0·31550	7
8		7·99228	0·35128		7·99218	0·35360		7·99207	0·35592		7·99197	0·35825		7·99186	0·36057	8
9		8·99131	0·39519		8·99120	0·39780		8·99108	0·40042		8·99097	0·40303		8·99085	0·40565	9
10	29	9·99035	0·43910	28	9·99022	0·44200	27	9·99009	0·44491	26	9·98996	0·44781	25	9·98983	0·45072	10
1	41	0·99890	0·04681	42	0·99888	0·04710	43	0·99887	0·04739	44	0·99886	0·04768	45	0·99884	0·04797	1
2		1·99780	0·09363		1·99777	0·09421		1·99775	0·09479		1·99772	0·09537		1·99769	0·09595	2
3		2·99671	0·14044		2·99666	0·14131		2·99662	0·14219		2·99658	0·14306		2·99654	0·14393	3
4		3·99561	0·18726		3·99555	0·18842		3·99550	0·18958		3·99544	0·19075		3·99539	0·19191	4
5		4·99451	0·23408		4·99445	0·23553		4·99438	0·23698		4·99431	0·23843		4·99424	0·23989	5
6		5·99342	0·28089		5·99334	0·28263		5·99325	0·28438		5·99317	0·28612		5·99309	0·28786	6
7		6·99232	0·32771		6·99223	0·32974		6·99213	0·33177		6·99203	0·33381		6·99193	0·33584	7
8		7·99122	0·37452		7·99112	0·37685		7·99100	0·37917		7·99089	0·38150		7·99078	0·38382	8
9		8·99013	0·42134		8·99001	0·42395		8·98988	0·42657		8·98976	0·42918		8·98963	0·43180	9
10	19	9·98903	0·46816	18	9·98890	0·47106	17	9·98876	0·47397	16	9·98862	0·47687	15	9·98848	0·47978	10
1	51	0·99876	0·04972	52	0·99874	0·05001	53	0·99873	0·05030	54	0·99871	0·05059	55	0·99870	0·05088	1
2		1·99752	0·09944		1·99749	0·10002		1·99746	0·10060		1·99743	0·10118		1·99740	0·10176	2
3		2·99628	0·14916		2·99624	0·15003		2·99620	0·15090		2·99615	0·15177		2·99611	0·15265	3
4		3·99505	0·19888		3·99499	0·20004		3·99493	0·20120		3·99487	0·20237		3·99481	0·20353	4
5		4·99381	0·24860		4·99374	0·25006		4·99367	0·25151		4·99359	0·25296		4·99352	0·25441	5
6		5·99257	0·29832		5·99249	0·30007		5·99240	0·30181		5·99231	0·30355		5·99222	0·30530	6
7		6·99134	0·34804		6·99124	0·35008		6·99113	0·35211		6·99103	0·35415		6·99093	0·35618	7
8		7·99010	0·39777		7·98998	0·40009		7·98987	0·40241		7·98975	0·40474		7·98963	0·40706	8
9		8·98886	0·44749		8·98873	0·45010		8·98860	0·45272		8·98847	0·45533		8·98834	0·45795	9
10	09	9·98763	0·49721	08	9·98748	0·50012	07	9·98734	0·50302	06	9·98719	0·50593	05	9·98704	0·50883	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 87.

2 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·99932	0·03664	07	0·99931	0·03693	08	0·99930	0·03722	09	0·99929	0·03751	10	0·99928	0·03780	1
2		1·99865	0·07328		1·99863	0·07386		1·99861	0·07445		1·99859	0·07503		1·99857	0·07561	2
3		2·99798	0·10993		2·99795	0·11080		2·99792	0·11167		2·99788	0·11254		2·99785	0·11341	3
4		3·99731	0·14657		3·99727	0·14773		3·99722	0·14890		3·99718	0·15006		3·99714	0·15122	4
5		4·99664	0·18321		4·99658	0·18467		4·99653	0·18612		4·99648	0·18757		4·99642	0·18903	5
6		5·99597	0·21986		5·99590	0·22160		5·99584	0·22335		5·99577	0·22509		5·99571	0·22683	6
7		6·99529	0·25650		6·99522	0·25854		6·99514	0·26057		6·99507	0·26261		6·99499	0·26464	7
8		7·99462	0·29314		7·99454	0·29547		7·99445	0·29780		7·99436	0·30012		7·99428	0·30245	8
9		8·99395	0·32979		8·99385	0·33240		8·99376	0·33502		8·99366	0·33764		8·99356	0·34025	9
10	54	9·99328	0·36643	53	9·99317	0·36934	52	9·99307	0·37225	51	9·99296	0·37515	50	9·99285	0·37806	10
1	16	0·99921	0·03955	17	0·99920	0·03984	18	0·99919	0·04013	19	0·99918	0·04042	20	0·99917	0·04071	1
2		1·99843	0·07910		1·99841	0·07968		1·99838	0·08026		1·99836	0·08084		1·99834	0·08142	2
3		2·99765	0·11865		2·99761	0·11952		2·99758	0·12039		2·99754	0·12126		2·99751	0·12213	3
4		3·99687	0·15820		3·99682	0·15936		3·99677	0·16052		3·99673	0·16168		3·99668	0·16285	4
5		4·99608	0·19775		4·99603	0·19920		4·99597	0·20065		4·99591	0·20211		4·99585	0·20356	5
6		5·99530	0·23730		5·99523	0·23904		5·99516	0·24079		5·99509	0·24253		5·99502	0·24427	6
7		6·99452	0·27685		6·99444	0·27888		6·99436	0·28092		6·99427	0·28295		6·99419	0·28499	7
8		7·99374	0·31640		7·99364	0·31872		7·99355	0·32105		7·99346	0·32337		7·99336	0·32570	8
9		8·99295	0·35595		8·99285	0·35856		8·99274	0·36118		8·99264	0·36380		8·99253	0·36641	9
10	44	9·99217	0·39550	43	9·99206	0·39841	42	9·99194	0·40131	41	9·99182	0·40422	40	9·99171	0·40713	10
1	26	0·99909	0·04245	27	0·99908	0·04274	28	0·99907	0·04303	29	0·99906	0·04332	30	0·99904	0·04361	1
2		1·99819	0·08491		1·99817	0·08549		1·99814	0·08607		1·99812	0·08665		1·99809	0·08723	2
3		2·99729	0·12737		2·99725	0·12824		2·99722	0·12911		2·99718	0·12998		2·99714	0·13085	3
4		3·99639	0·16982		3·99634	0·17099		3·99629	0·17215		3·99624	0·17331		3·99619	0·17447	4
5		4·99549	0·21228		4·99543	0·21373		4·99536	0·21519		4·99530	0·21664		4·99524	0·21809	5
6		5·99458	0·25474		5·99451	0·25648		5·99444	0·25822		5·99436	0·25997		5·99428	0·26171	6
7		6·99368	0·29719		6·99360	0·29923		6·99351	0·30126		6·99342	0·30330		6·99333	0·30533	7
8		7·99278	0·33965		7·99268	0·34198		7·99258	0·34430		7·99248	0·34663		7·99238	0·34895	8
9		8·99188	0·38211		8·99177	0·38472		8·99166	0·38734		8·99154	0·38995		8·99143	0·39257	9
10	34	9·99098	0·42457	33	9·99086	0·42747	32	9·99073	0·43038	31	9·99061	0·43328	30	9·99048	0·43619	10
1	36	0·99897	0·04536	37	0·99895	0·04565	38	0·99894	0·04594	39	0·99893	0·04623	40	0·99891	0·04652	1
2		1·99794	0·09072		1·99791	0·09130		1·99788	0·09188		1·99786	0·09246		1·99783	0·09305	2
3		2·99691	0·13608		2·99687	0·13696		2·99683	0·13783		2·99679	0·13870		2·99675	0·13957	3
4		3·99588	0·18145		3·99582	0·18261		3·99577	0·18377		3·99572	0·18493		3·99566	0·18610	4
5		4·99485	0·22681		4·99478	0·22826		4·99472	0·22972		4·99465	0·23117		4·99458	0·23262	5
6		5·99382	0·27217		5·99374	0·27392		5·99366	0·27566		5·99358	0·27740		5·99350	0·27915	6
7		6·99279	0·31754		6·99270	0·31957		6·99260	0·32160		6·99251	0·32364		6·99241	0·32567	7
8		7·99176	0·36290		7·99165	0·36522		7·99155	0·36755		7·99144	0·36987		7·99133	0·37220	8
9		8·99073	0·40826		8·99061	0·41088		8·99049	0·41349		8·99037	0·41611		8·99025	0·41872	9
10	24	9·98970	0·45363	23	9·98957	0·45653	22	9·98944	0·45944	21	9·98930	0·46234	20	9·98917	0·46525	10
1	46	0·99883	0·04826	47	0·99882	0·04855	48	0·99880	0·04885	49	0·99879	0·04914	50	0·99877	0·04943	1
2		1·99766	0·09653		1·99764	0·09711		1·99761	0·09770		1·99758	0·09828		1·99755	0·09886	2
3		2·99650	0·14480		2·99646	0·14567		2·99641	0·14655		2·99637	0·14742		2·99633	0·14829	3
4		3·99533	0·19307		3·99528	0·19423		3·99522	0·19540		3·99516	0·19656		3·99511	0·19772	4
5		4·99417	0·24134		4·99410	0·24279		4·99403	0·24425		4·99396	0·24570		4·99388	0·24715	5
6		5·99300	0·28961		5·99292	0·29135		5·99283	0·29310		5·99275	0·29484		5·99266	0·29658	6
7		6·99184	0·33788		6·99174	0·33991		6·99164	0·34195		6·99154	0·34398		6·99144	0·34601	7
8		7·99067	0·38614		7·99056	0·38847		7·99044	0·39080		7·99033	0·39312		7·99022	0·39544	8
9		8·98950	0·43441		8·98938	0·43703		8·98925	0·43965		8·98912	0·44226		8·98899	0·44487	9
10	14	9·98834	0·48268	13	9·98820	0·48559	12	9·98806	0·48850	11	9·98792	0·49140	10	9·98777	0·49430	10
1	56	0·99869	0·05117	57	0·99867	0·05146	58	0·99866	0·05175	59	0·99864	0·05204	60	0·99863	0·05233	1
2		1·99738	0·10234		1·99734	0·10292		1·99732	0·10351		1·99728	0·10409		1·99726	0·10467	2
3		2·99607	0·15352		2·99602	0·15439		2·99598	0·15526		2·99593	0·15613		2·99589	0·15700	3
4		3·99476	0·20469		3·99469	0·20585		3·99464	0·20702		3·99457	0·20818		3·99452	0·20934	4
5		4·99345	0·25587		4·99337	0·25732		4·99330	0·25877		4·99322	0·26022		4·99315	0·26168	5
6		5·99214	0·30704		5·99204	0·30878		5·99196	0·31053		5·99186	0·31227		5·99178	0·31401	6
7		6·99083	0·35821		6·99072	0·36025		6·99062	0·36228		6·99051	0·36431		6·99041	0·36635	7
8		7·98952	0·40939		7·98939	0·41171		7·98928	0·41404		7·98915	0·41636		7·98904	0·41868	8
9		8·98821	0·46056		8·98807	0·46318		8·98794	0·46579		8·98780	0·46840		8·98767	0·47102	9
10	04	9·98690	0·51174	03	9·98674	0·51464	02	9·98660	0·51755	01	9·98644	0·52045	00	9·98630	0·52336	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

4

87 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·99861	0·05262	02	0·99859	0·05291	03	0·99858	0·05320	04	0·99856	0·05349	05	0·99855	0·05378	1
2		1·99722	0·10525		1·99719	0·10583		1·99716	0·10641		1·99713	0·10699		1·99710	0·10757	2
3		2·99584	0·15787		2·99579	0·15875		2·99575	0·15962		2·99570	0·16049		2·99565	0·16136	3
4		3·99445	0·21050		3·99439	0·21166		3·99433	0·21282		3·99427	0·21399		3·99420	0·21515	4
5		4·99307	0·26313		4·99299	0·26458		4·99291	0·26603		4·99284	0·26749		4·99276	0·26894	5
6		5·99168	0·31575		5·99159	0·31750		5·99150	0·31924		5·99140	0·32098		5·99131	0·32272	6
7		6·99030	0·36838		6·99019	0·37041		6·99008	0·37245		6·98997	0·37448		6·98986	0·37651	7
8		7·98891	0·42101		7·98879	0·42333		7·98866	0·42565		7·98854	0·42798		7·98841	0·43030	8
9		8·98752	0·47363		8·98739	0·47625		8·98725	0·47886		8·98711	0·48148		8·98697	0·48409	9
10	59	9·98614	0·52626	58	9·98599	0·52917	57	9·98583	0·53207	56	9·98568	0·53498	55	9·98552	0·53788	10
1	11	0·99845	0·05553	12	0·99844	0.05582	13	0·99842	0·05611	14	0·99840	0·05640	15	0·99839	0·05669	1
2		1·99691	0·11106		1·99688	0·11164		1·99684	0·11222		1·99681	0·11280		1·99678	0·11338	2
3		2·99537	0·16659		2·99532	0·16746		2·99527	0·16833		2·99522	0·16920		2·99517	0·17007	3
4		3·99382	0·22212		3·99376	0·22328		3·99369	0·22444		3·99363	0·22560		3·99356	0·22677	4
5		4·99228	0·27765		4·99220	0·27910		4·99212	0·28056		4·99204	0·28201		4·99195	0·28346	5
6		5·99074	0·33318		5·99064	0·33492		5·99054	0·33667		5·99044	0·33841		5·99035	0·34015	6
7		6·98919	0·38871		6·98908	0·39075		6·98897	0·39278		6·98885	0·39481		6·98874	0·39684	7
8		7·98765	0·44424		7·98752	0·44657		7·98739	0·44889		7·98726	0·45121		7·98713	0·45354	8
9		8·98611	0·49977		8·98596	0·50239		8·98582	0·50500		8·98567	0·50762		8·98552	0·51023	9
10	49	9·98457	0·55531	48	9·98440	0·55821	47	9·98424	0·56112	46	9·98408	0·56402	45	9·98391	0·56692	10
1	21	0·99829	0·05843	22	0·99827	0·05872	23	0·99825	0·05901	24	0·99824	0·05930	25	0·99822	0·05959	1
2		1·99658	0·11687		1·99654	0·11745		1·99651	0·11803		1·99648	0·11861		1·99644	0·11919	2
3		2·99487	0·17530		2·99482	0·17617		2·99477	0·17704		2·99472	0·17791		2·99466	0·17879	3
4		3·99316	0·23374		3·99309	0·23490		3·99302	0·23606		3·99296	0·23722		3·99289	0·23838	4
5		4·99145	0·29217		4·99137	0·29362		4·99128	0·29508		4·99120	0·29653		4·99111	0·29798	5
6		5·98974	0·35061		5·98964	0·35235		5·98954	0·35409		5·98944	0·35583		5·98933	0·35758	6
7		6·98803	0·40904		6·98791	0·41107		6·98779	0·41311		6·98768	0·41514		6·98755	0·41717	7
8		7·98632	0·46748		7·98619	0·46980		7·98605	0·47212		7·98592	0·47445		7·98578	0·47677	8
9		8·98462	0·52591		8·98446	0·52853		8·98431	0·53114		8·98416	0·53375		8·98400	0·53637	9
10	39	9·98291	0·58435	38	9·98274	0·58725	37	9·98257	0·59016	36	9·98240	0·59306	35	9·98222	0·59596	10
1	31	0·99811	0·06133	32	0·99809	0·06162	33	0·99808	0·06191	34	0·99806	0·06221	35	0·99804	0·06250	1
2		1·99623	0·12267		1·99619	0·12325		1·99616	0·12383		1·99612	0.12442		1·99609	0·12500	2
3		2·99435	0·18401		2·99429	0·18488		2·99424	0·18575		2·99418	0·18663		2·99413	0·18750	3
4		3·99246	0·24535		3·99239	0·24651		3·99232	0·24767		3·99225	0·24884		3·99218	0·25000	4
5		4·99058	0·30669		4·99049	0·30814		4·99040	0·30959		4·99031	0·31105		4·99022	0·31250	5
6		5·98870	0·36803		5·98859	0·36977		5·98848	0·37151		5·98837	0·37326		5·98827	0·37500	6
7		6·98681	0·42937		6·98669	0·43140		6·98656	0·43343		6·98644	0·43547		6·98631	0·43750	7
8		7·98493	0·49071		7·98479	0·49303		7·98464	0·49535		7·98450	0·49768		7·98436	0·50000	8
9		8·98305	0·55205		8·98289	0·55466		8·98272	0·55727		8·98256	0·55989		8·98240	0·56250	9
10	29	9·98117	0·61339	28	9·98099	0·61629	27	9·98081	0·61919	26	9·98063	0·62210	25	9·98045	0·62500	10
1	41	0·99793	0·06424	42	0·99791	0·06453	43	0·99789	0·06482	44	0·99787	0·06511	45	0·99785	0·06540	1
2		1·99586	0·12848		1·99583	0·12906		1·99579	0·12964		1·99575	0·13022		1·99571	0·13080	2
3		2·99380	0·19272		2·99374	0·19359		2·99369	0·19446		2·99363	0·19533		2·99357	0·19620	3
4		3·99173	0·25696		3·99166	0·25812		3·99158	0·25929		3·99151	0·26045		3·99143	0·26161	4
5		4·98967	0·32121		4·98957	0·32266		4·98948	0·32411		4·98939	0·32556		4·98929	0·32701	5
6		5·98760	0·38545		5·98749	0·38719		5·98738	0·38893		5·98726	0·39067		5·98715	0·39241	6
7		6·98554	0·44969		6·98540	0·45172		6·98527	0·45375		6·98514	0·45579		6·98501	0·45782	7
8		7·98347	0·51393		7·98332	0·51625		7·98317	0·51858		7·98302	0·52090		7·98287	0·52322	8
9		8·98140	0·57817		8·98124	0·58079		8·98107	0·58340		8·98090	0·58601		8·98073	0·58862	9
10	19	9·97934	0·64242	18	9·97915	0·64532	17	9·97896	0·64822	16	9·97878	0·65113	15	9·97859	0·65403	10
1	51	0·99774	0·06714	52	0·99772	0·06743	53	0·99770	0·06772	54	0·99768	0·06801	55	0·99766	0·06830	1
2		1·99548	0·13428		1·99544	0·13486		1·99540	0·13545		1·99536	0·13603		1·99532	0·13661	2
3		2·99322	0·20143		2·99317	0·20230		2·99311	0·20317		2·99305	0·20404		2·99299	0·20491	3
4		3·99097	0·26857		3·99089	0·26973		3·99081	0·27090		3·99073	0·27206		3·99065	0·27322	4
5		4·98871	0·33572		4·98861	0·33717		4·98852	0·33862		4·98842	0·34007		4·98832	0·34152	5
6		5·98645	0·40286		5·98634	0·40460		5·98622	0·40635		5·98610	0·40809		5·98598	0·40983	6
7		6·98420	0·47001		6·98406	0·47204		6·98392	0·47407		6·98379	0·47610		6·98365	0·47813	7
8		7·98194	0·53715		7·98178	0·53947		7·98163	0·54180		7·98147	0·54412		7·98131	0·54644	8
9		8·97968	0·60430		8·97951	0·60691		8·97933	0·60952		8·97915	0·61213		8.97898	0·61474	9
10	09	9·97743	0·67144	08	9·97723	0·67435	07	9·97704	0·67725	06	9·97684	0·68015	05	9·97664	0·68305	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

86 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep	M.	Lat.	Dep	M.	Lat.	Dep.	D.
1	06	0·99853	0·05407	07	0·99852	0·05436	08	0·99850	0·05465	09	0·99848	0·05495	10	0·99847	0·05524	1
2		1·99707	0·10815		1·99704	0·10873		1·99701	0·10931		1·99697	0·10990		1·99694	0·11048	2
3		2·99561	0·16223		2·99556	0·16310		2·99551	0·16397		2·99546	0·16485		2·99541	0·16572	3
4		3·99414	0·21631		3·99408	0·21747		3·99402	0·21863		3·99395	0·21980		3·99389	0·22096	4
5		4·99268	0·27039		4·99260	0·27184		4·99252	0·27329		4·99244	0·27475		4·99236	0·27620	5
6		5·99122	0·32447		5·99112	0·32621		5·99103	0·32795		5·99093	0·32970		5·99083	0·33144	6
7		6·98975	0·37855		6·98964	0·38058		6·98953	0·38261		6·98942	0·38465		6·98931	0·38668	7
8		7·98829	0·43263		7·98816	0·43495		7·98804	0·43727		7·98791	0·43960		7·98778	0·44192	8
9		8·98683	0·48670		8·98668	0·48932		8·98654	0·49193		8·98640	0·49455		8·98625	0·49716	9
10	54	9·98536	0·54078	53	9·98521	0·54369	52	9 98505	0·54659	51	9·98489	0·54950	50	9·98473	0·55240	10
1	16	0·99837	0·05698	17	0·99835	0·05727	18	0·99834	0·05756	19	0·99832	0·05785	20	0 99830	0·05814	1
2		1·99675	0·11396		1·99671	0·11454		1·99668	0·11512		1·99665	0·11570		1·99661	0·11628	2
3		2·99512	0·17094		2·99507	0·17182		2·99502	0·17269		2·99497	0·17356		2·99492	0·17443	3
4		3·99350	0·22793		3·99343	0·22909		3·99336	0·23025		3·99330	0·23141		3·99323	0·23257	4
5		4·99187	0·28491		4·99179	0·28636		4·99170	0·28782		4·99162	0·28927		4·99154	0·29072	5
6		5·99025	0·34189		5 99015	0·34364		5·99005	0·34538		5·98995	0·34712		5·98984	0·34886	6
7		6·98862	0·39888		6·98850	0·40091		6·98839	0·40294		6·98827	0·40498		6.98815	0·40701	7
8		7·98700	0·45586		7·98686	0·45818		7·98673	0·46051		7·98660	0·46283		7·98646	0·46515	8
9		8·98537	0·51284		8·98522	0·51546		8·98507	0·51807		8·98492	0·52068		8·98477	0·52330	9
10	44	9·98375	0·56983	43	9·98358	0·57273	42	9·98341	0·57564	41	9·98325	0·57854	40	9·98308	0·58144	10
1	26	0·99820	0·05988	27	0 99818	0·06017	28	0·99817	0·06046	29	0·99815	0·06075	30	0·99813	0·06104	1
2		1·99641	0·11977		1·99637	0·12035		1·99634	0·12093		1·99630	0·12151		1:99626	0·12209	2
3		2·99461	0·17966		2·99456	0·18053		2·99451	0·18140		2·99445	0·18227		2 99440	0·18314	3
4		3·99282	0·23954		3·99275	0·24071		3·99268	0·24187		3·99261	0·24303		3·99253	0·24419	4
5		4·99102	0·29943		4·99093	0·30088		4·99085	0·30233		4·99076	0·30379		4·99067	0·30524	5
6		5·98923	0·35932		5 98912	0·36106		5·98902	0·36280		5·98891	0·36454		5·98880	0·36629	6
7		6·98743	0·41920		6·98731	0·42124		6·98719	0·42327		6·98706	0·42530		6·98694	0·42733	7
8		7·98564	0·47909		7·98550	0·48142		7·98536	0·48374		7·98522	0·48606		7·98507	0·48838	8
9		8·98384	0·53898		8·98368	0·54159		8·98353	0·54421		8·98337	0·54682		8·98321	0·54943	9
10	34	9·98205	0·59887	33	9·98187	0·60177	32	9·98170	0·60467	31	9·98152	0·60758	30	9 98134	0·61048	10
1	36	0·99802	0·06279	37	0·99800	0·06308	38	0·99799	0·06337	39	0·99797	0·06366	40	0·99795	0·06395	1
2		1·99605	0·12558		1·99601	0·12616		1·99598	0·12674		1·99594	0·12732		1·99590	0·12790	2
3		2·99408	0·18837		2·99402	0·18924		2·99397	0·19011		2·99391	0·19098		2·99385	0·19185	3
4		3·99210	0·25116		3·99203	0 25232		3·99196	0·25348		3·99188	0·25464		3·99181	0·25580	4
5		4·99013	0·31395		4·99004	0·31540		4·98995	0·31685		4·98985	0·31830		4·98976	0·31975	5
6		5·98816	0·37674		5·98805	0·37848		5·98794	0·38022		5·98782	0·38196		5·98771	0·38371	6
7		6·98618	0·43953		6·98605	0·44156		6·98593	0·44359		6·98580	0·44562		6·98567	0·44766	7
8		7·98421	0·50232		7·98406	0·50464		7·98392	0·50696		7·98377	0·50929		7·98362	0·51161	8
9		8·98224	0·56511		8·98207	0·56772		8·98191	0·57033		8·98174	0·57295		8·98157	0·57556	9
10	24	9·98026	0·62790	23	9·98008	0·63080	22	9·97990	0·63371	21	9·97971	0·63661	20	9·97953	0·63951	10
1	46	0·99784	0·06569	47	0·99782	0·06598	48	0·99780	0·06627	49	0·99778	0·06656	50	0·99776	0·06685	1
2		1·99568	0·13138		1·99564	0·13196		1·99560	0·13254		1·99556	0·13312		1·99552	0·13370	2
3		2·99352	0·19708		2·99346	0·19795		2·99340	0·19882		2·99334	0·19969		2·99328	0·20056	3
4		3·99136	0·26277		3·99128	0·26393		3·99120	0·26509		3·99112	0·26625		3·99105	0·26741	4
5		4·98920	0·32846		4·98910	0·32991		4·98900	0·33137		4·98891	0·33282		4·98881	0·33427	5
6		5·98704	0·39416		5·98692	0 39590		5·98680	0·39764		5·98669	0·39938		5·98657	0·40112	6
7		6·98488	0·45985		6·98474	0·46188		6·98461	0·46391		6·98447	0·46594		6·98433	0·46798	7
8		7·98272	0·52554		7·98256	0·52786		7·98241	0·53019		7·98225	0·53251		7·98210	0·53483	8
9		8 98056	0·59124		8·98038	0·59385		8·98021	0·59646		8·98003	0·59907		8·97986	0·60168	9
10	14	9·97840	0·65693	13	9·97820	0·65983	12	9·97801	0·66274	11	9·97782	0·66564	10	9·97762	0·66854	10
1	56	0·99764	0·06859	57	0·99762	0·06888	58	0·99760	0·06917	59	0·99758	0·06946	60	0·99756	0·06975	1
2		1·99528	0·13719		1·99524	0·13777		1·99520	0·13835		1·99516	0·13893		1·99512	0·13951	2
3		2·99293	0·20578		2·99287	0·20665		2·99281	0·20752		2·99275	0·20839		2·99269	0·20926	3
4		3·99057	0·27438		3·99049	0·27554		3·99041	0·27670		3·99033	0·27786		3·99025	0·27902	4
5		4·98822	0·34297		4·98812	0·34443		4·98802	0·34588		4·98792	0·34733		4·98782	0·34878	5
6		5·98586	0·41157		5·98574	0·41331		5·98562	0·41505		5·98550	0·41679		5·98538	0·41853	6
7		6·98351	0·48016		6 98337	0·48220		6·98323	0·48423		6·98309	0·48626		6·98294	0·48829	7
8		7·98115	0·54876		7·98099	0·55108		7·98083	0·55340		7·98067	0·55573		7·98051	0·55805	8
9		8·97880	0·61736		8·97862	0·61997		8·97844	0·62258		8·97825	0·62519		8·97807	0·62780	9
10	04	9·97644	0·68595	03	9·97624	0·68886	02	9·97604	0·69176	01	9·97584	0·69466	00	9·97564	0·69756	10
D.	M.	Dep	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DIFFERENCE OF LATITUDE AND DEPARTURE.

DEG. 4.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·99754	0·07004	02	0·99752	0·07033	03	0·99750	0·07062	04	0·99748	0·07091	05	0·99746	0 07120	1
2		1·99508	0·14009		1·99504	0·14067		1·99500	0·14125		1·99496	0·14183		1·99492	0·14241	2
3		2·99263	0·21014		2·99256	0·21101		2·99250	0·21188		2·99244	0·21275		2·99238	0·21362	3
4		3·99017	0·28018		3·99009	0·28134		3·99001	0 28250		3·98992	0·28366		3 98984	0·28482	4
5		4·98771	0·35023		4·98761	0·35168		4·98751	0·35313		4·98741	0·35458		4·98730	0·35603	5
6		5·98526	0·42028		5·98513	0·42202		5·98501	0·42376		5·98489	0·42550		5·98476	0·42724	6
7		6·98280	0·49032		6·98266	0·49235		6·98251	0·49438		6·98237	0·49641		6·98223	0·49845	7
8		7·98034	0·56037		7 98018	0·56269		7·98002	0·56501		7·97985	0·56733		7·97969	0·56965	8
9		8·97789	0·63042		8·97770	0·63303		8·97752	0·63564		8·97733	0·63825		8·97715	0·64086	9
10	59	9·97543	0·70046	58	9·97523	0·70336	57	9·97502	0·70627	56	9·97482	0·70917	55	9·97461	0·71207	10
1	11	0·99733	0·07294	12	0·99731	0·07323	13	0 99729	0·07352	14	0·99727	0·07381	15	0·99725	0·07410	1
2		1·99467	0·14589		1 99462	0·14647		1·99458	0·14705		1·99454	0·14763		1·99450	0·14821	2
3		2·99200	0·21884		2·99194	0·21971		2·99187	0·22058		2·99181	0·22145		2·99175	0·22232	3
4		3·98934	0·29179		3·98925	0·29295		3·98917	0·29411		3·98908	0·29527		3·98900	0·29643	4
5		4·98667	0·36474		4·98657	0·36619		4·98646	0·36764		4·98635	0·36909		4·98625	0·37054	5
6		5·98401	0·43768		5·98388	0·43942		5·98375	0·44116		5·98363	0·44291		5·98350	0·44465	6
7		6·98134	0·51063		6·98120	0·51266		6·98105	0·51469		6·98090	0·51672		6·98075	0·51875	7
8		7·97868	0·58358		7·97851	0·58590		7·97834	0·58822		7·97817	0·59054		7 97800	0·59286	8
9		8·97602	0·65653		8 97583	0·65914		8·97563	0·66175		8·97544	0·66436		8·97525	0·66697	9
10	49	9·97335	0·72948	48	9·97314	0·73238	47	9·97293	0·73528	46	9·97271	0·73818	45	9·97250	0·74108	10
1	21	0·99711	0·07584	22	0·99709	0·07613	23	0·99707	0·07642	24	0·99705	0·07671	25	0·99703	0·07700	1
2		1·99423	0·15169		1·99419	0·15227		1·99415	0·15285		1·99410	0·15343		1·99406	0·15401	2
3		2·99135	0·22755		2.99129	0·22841		2·99122	0·22928		2 99115	0·23015		2·99109	0·23102	3
4		3·98847	0·30339		3·98838	0·30455		3·98830	0·30571		3·98821	0·30687		3·98812	0·30803	4
5		4·98559	0·37924		4·98548	0.38069		4·98537	0·38214		4·98526	0·38359		4·98515	0·38504	5
6		5·98271	0·45509		5·98258	0·45683		5·98245	0·45857		5·98231	0·46031		5·98218	0·46205	6
7		6·97983	0·53094		6·97968	0·53297		6·97952	0·53500		6·97936	0·53703		6·97921	0·53906	7
8		7·97695	0·60679		7·97677	0·60911		7·97660	0·61143		7·97642	0·61375		7·97624	0·61607	8
9		8·97407	0·68264		8·97387	0·68525		8·97367	0·68786		8·97347	0·69047		8·97327	0·69308	9
10	39	9·97119	0·75849	38	9·97097	0·76139	37	9·97075	0·76429	36	9·97052	0·76719	35	9·97030	0·77009	10
1	31	0·99689	0·07874	32	0·99687	0·07903	33	0·99684	0·07932	34	0·99682	0·07961	35	0·99680	0·07990	1
2		1·99378	0·15749		1·99374	0·15807		1·99369	0·15865		1·99365	0·15923		1·99360	0·15981	2
3		2·99068	0·23624		2·99061	0 23711		2·99054	0·23798		2·99047	0 23885		2·99040	0·23972	3
4		3·98757	0·31499		3 98748	0·31615		3·98739	0·31731		3·98730	0·31847		3·98720	0.31963	4
5		4·98447	0·39374		4·98435	0·39519		4·98424	0·39664		4·98412	0·39809		4·98401	0·39954	5
6		5·98136	0·47249		5·98122	0·47423		5·98109	0·47597		5·98095	0·47771		5·98081	0·47945	6
7		6·97826	0·55124		6·97810	0.55327		6·97793	0·55530		6·97777	0·55733		6·97761	0·55936	7
8		7·97515	0·62999		7·97497	0·63231		7·97478	0·63463		7·97460	0·63695		7·97441	0·63927	8
9		8·97205	0·70874		8·97184	0·71135		8·97163	0·71396		8·97142	0·71657		8·97121	0·71918	9
10	29	9·96894	0·78749	28	9·96871	0·79039	27	9.96848	0·79329	26	9·96825	0·79619	25	9·96802	0·79909	10
1	41	0·99666	0·08164	42	0·99663	0·08193	43	0·99661	0·08222	44	0·99659	0·08251	45	0·99656	0·08280	1
2		1·99332	0·16329		1·99327	0·16387		1·99322	0·16445		1·99318	0·16503		1·99313	0·16561	2
3		2·98998	0·24494		2·98991	0·24581		2·98984	0·24668		2·98977	0·24755		2·98969	0·24842	3
4		3·98664	0·32659		3·98654	0·32775		3·98645	0·32891		3·98636	0·33007		3·98626	0·33123	4
5		4·98330	0·40824		4·98318	0·40969		4·98306	0·41114		4·98295	0·41259		4·98282	0·41404	5
6		5·97996	0·48989		5·97982	0·49163		5·97968	0·49337		5·97954	0·49510		5·97939	0·49684	6
7		6·97662	0·57154		6·97646	0·57356		6·97629	0·57559		6·97613	0·57762		6·97595	0·57965	7
8		7·97328	0·65318		7·97309	0 65550		7·97290	0·65782		7·97272	0·66014		7·97252	0·66246	8
9		8·96995	0·73483		8·96973	0·73744		8·96952	0·74005		8·96931	0·74266		8·96908	0·74527	9
10	19	9·96661	0·81648	18	9·96637	0·81938	17	9·96613	0·82228	16	9·96590	0·82518	15	9·96565	0·82808	10
1	51	0·99642	0·08454	52	0·99639	0·08483	53	0·99637	0·08512	54	0·99634	0·08541	55	0·99632	0·08570	1
2		1·99284	0·16909		1·99278	0·16967		1·99274	0·17025		1·99269	0·17083		1·99264	0·17141	2
3		2·98926	0·25364		2·98918	0·25451		2·98911	0·25538		2·98903	0·25625		2·98896	0·25712	3
4		3·98568	0·33818		3·98557	0·33934		3·98548	0·34050		3·98538	0·34166		3·98528	0 34282	4
5		4·98210	0·42273		4·98197	0·42418		4·98185	0·42563		4 98172	0·42708		4·98160	0·42853	5
6		5·97852	0·50728		5·97836	0·50902		5·97822	0·51076		5·97807	0·51250		5·97792	0·51424	6
7		6·97494	0·59183		6·97476	0·59386		6·97459	0·59588		6·97441	0·59791		6·97424	0·59994	7
8		7·97136	0·67637		7·97115	0·67869		7·97096	0·68101		7·97076	0·68333		7·97056	0·68565	8
9		8·96778	0·76092		8·96755	0·76353		8·96733	0·76614		8·96710	0·76875		8·96688	0·77136	9
10	09	9·96420	0·84547	08	9·96394	0·84837	07	9·96370	0·85127	06	9·96345	0·85417	05	9·96320	0·85706	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 85

4 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·99744	0·07149	07	0·99742	0·07178	08	0·99739	0·07207	09	0·99737	0·07236	10	0·99735	0·07265	1
2		1·99488	0·14299		1·99484	0·14357		1·99479	0·14415		1·99475	0·14473		1·99471	0·14531	2
3		2·99232	0·21449		2·99226	0·21536		2·99219	0·21623		2·99213	0·21710		2 99207	0·21797	3
4		3·98976	0·28598		3·98968	0·28715		3·98959	0·28831		3·98951	0·28947		3·98942	0·29063	4
5		4·98720	0·35748		4·98710	0·35893		4·98699	0·36038		4·98689	0·36183		4·98678	0·36329	5
6		5·98464	0·42898		5·98452	0·43072		5·98439	0·43246		5·98426	0·43420		5·98414	0·43594	6
7		6·98208	0·50048		6·98194	0·50251		6·98179	0·50454		6·98164	0·50657		6·98149	0·50860	7
8		7·97952	0·57197		7·97936	0·57430		7·97919	0·57662		7·97902	0·57894		7·97885	0·58126	8
9		8·97696	0·64347		8·97678	0·64608		8·97659	0·64869		8·97640	0·65131		8·97621	0·65392	9
10	54	9·97440	0·71497	53	9·97420	0·71787	52	9·97399	0·72077	51	9·97378	0·72367	50	9·97357	0·72658	10
1	16	0·99722	0·07439	17	0·99720	0·07468	18	0·99718	0·07497	19	0·99716	0·07526	20	0·99714	0·07555	1
2		1·99445	0 14879		1·99441	0·14937		1·99437	0·14995		1·99432	0·15053		1·99428	0·15111	2
3		2·99168	0·22319		2·99162	0·22406		2·99155	0·22493		2·99148	0·22580		2·99142	0·22667	3
4		3·98891	0·29759		3·98882	0·29875		3·98874	0·29991		3·98865	0·30107		3·98856	0·30223	4
5		4·98614	0·37199		4·98603	0·37344		4·98592	0·37489		4·98581	0·37634		4·98570	0·37779	5
6		5·98337	0·44639		5·98324	0·44813		5·98311	0 44987		5·98297	0·45161		5·98284	0·45335	6
7		6·98060	0·52079		6·98044	0·52282		6·98029	0·52485		6·98014	0·52688		6·97998	0·52891	7
8		7·97782	0·59518		7·97765	0·59750		7·97748	0·59982		7·97730	0·60215		7·97718	0·60447	8
9		8·97505	0·66958		8·97486	0·67219		8·97466	0·67480		8·97446	0·67741		8·97427	0·68003	9
10	44	9·97228	0·74398	43	9·97207	0·74688	42	9·97185	0·74978	41	9·97163	0·75268	40	9·97141	0·75559	10
1	26	0·99700	0·07729	27	0·99698	0·07758	28	0·99696	0·07787	29	0·99694	0·07816	30	0·99691	0'07845	1
2		1·99401	0·15459		1·99397	0·15517		1·99392	0·15575		1·99388	0·15633		1·99383	0·15691	2
3		2·99102	0·23189		2·99095	0·23276		2·99088	0·23363		2·99082	0·23450		2·99075	0·23537	3
4		3·98803	0·30919		3·98794	0·31035		3·98785	0·31151		3·98776	0·31267		3·98766	0·31383	4
5		4·98504	0·38649		4·98492	0·38794		4·98481	0·38939		4·98470	0·39084		4·98458	0·39229	5
6		5·98204	0·46379		5·98191	0·46553		5·98177	0·46727		5·98164	0·46901		5·98150	0·47075	6
7		6·97905	0·54109		6·97889	0·54312		6·97873	0·54515		6·97858	0·54718		6·97842	0·54921	7
8		7·97606	0·61839		7·97588	0·62071		7·97570	0·62303		7·97552	0·62535		7·97533	0·62767	8
9		8·97307	0·69569		8.97286	0·69830		8 97266	0·70091		8·97246	0·70352		8·97225	0·70613	9
10	34	9·97008	0·77299	33	9·96985	0·77589	32	9·96962	0·77879	31	9·96940	0·78169	30	9·96917	0·78459	10
1	36	0·99677	0·08019	37	0·99675	0·08048	38	0·99673	0·08077	39	0·99670	0·08106	40	0·99668	0·08135	1
2		1·99355	0·16039		1·99351	0·16097		1·99346	0·16155		1·99341	0·16213		1·99336	0·16271	2
3		2·99033	0·24059		2·99026	0·24146		2·99019	0·24233		2·99012	0·24320		2·99005	0·24407	3
4		3·98711	0·32079		3·98702	0·32195		3·98692	0·32311		3·98683	0·32427		3·98673	0·32543	4
5		4·98389	0·40099		4·98377	0·40244		4·98366	0·40389		4·98354	0·40534		4·98342	0·40679	5
6		5·98067	0·48119		5·98053	0·48293		5·98039	0·48467		5·98025	0·48641		5·98010	0·48815	6
7		6·97745	0·56139		6·97728	0·56342		6·97712	0·56545		6·97695	0·56748		6·97679	0·56951	7
8		7·97423	0·64159		7·97404	0·64391		7·97385	0·64623		7·97366	0·64854		7·97347	0·65086	8
9		8·97101	0·72179		8·97079	0·72440		8·97058	0·72700		8·97037	0·72961		8·97016	0·73222	9
10	24	9·96779	0·80199	23	9·96755	0·80489	22	9·96732	0·80778	21	9·96708	0·81068	20	9·96685	0·81358	10
1	46	0·99654	0·08309	47	0·99651	0·08338	48	0·99649	0·08367	49	0·99646	0·08396	50	0·99644	0·08425	1
2		1·99308	0·16619		1·99303	0·16677		1·99298	0·16735		1·99293	0·16793		1·99288	0·16851	2
3		2·98962	0·24929		2·98955	0·25016		2·98947	0·25103		2·98940	0·25190		2·98933	0·25277	3
4		3·98616	0·33239		3·98606	0·33355		3·98597	0·33471		3·98587	0·33587		3·98577	0·33703	4
5		4·98270	0·41549		4·98258	0·41694		4·98246	0·41838		4·98234	0·41983		4 98222	0·42128	5
6		5·97924	0·49858		5·97910	0·50032		5·97895	0·50206		5·97881	0·50380		5·97866	0·50554	6
7		6·97578	0·58168		6·97562	0·58371		6·97545	0·58574		6·97527	0·58777		6·97510	0·58980	7
8		7·97233	0·66478		7·97213	0·66710		7·97194	0 66942		7·97174	0·67174		7·97155	0·67406	8
9		8·96887	0·74788		8·96865	0·75049		8·96843	0·75310		8·96821	0·75570		8 96799	0·75831	9
10	14	9.96541	0·83098	13	9·96517	0·83388	12	9·96493	0·83677	11	9 96468	0·83967	10	9·96444	0·84257	10
1	56	0·99629	0·08599	57	0·99627	0·08628	58	0·99624	0·08657	59	0·99622	0·08686	60	0·99619	0·08715	1
2		1·99259	0·17199		1·99254	0·17257		1·99249	0·17315		1·99244	0·17373		1·99238	0·17431	2
3		2·98888	0.25798		2·98881	0·25885		2·98873	0·25972		2·98866	0·26059		2·98858	0·26146	3
4		3·98518	0·34398		3·98508	0·34514		3·98498	0·34630		3·98488	0·34746		3·98477	0·34862	4
5		4·98147	0·42998		4·98135	0·43143		4·98122	0·43288		4·98110	0·43433		4·98097	0·43577	5
6		5·97777	0·51597		5·97762	0·51771		5·97747	0·51945		5·97732	0·52119		5·97716	0·52293	6
7		6·97406	0·60197		6·97389	0·60400		6·97371	0·60603		6·97354	0·60806		6·97336	0·61008	7
8		7·97036	0·68797		7·97016	0·69029		7·96996	0·69260		7·96976	0·69492		7·96955	0·69724	8
9		8·96665	0·77396		8·96643	0·77657		8·96620	0·77918		8·96598	0·78179		8·96575	0·78440	9
10	04	9·96295	0·85996	03	9·96270	0·86286	02	9·96245	0·86576	01	9·96220	0·86866	00	9·96194	0·87155	10
D.	M.	Dep	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

6

85 DEG.

DEG. 5.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·99616	0·08744	02	0·99614	0·08773	03	0·99611	0·08802	04	0·99609	0·08831	05	0·99606	0·08860	1
2		1·99233	0·17489		1·99228	0·17547		1·99223	0·17605		1·99218	0·17662		1·99213	0·17720	2
3		2·98850	0·26233		2·98843	0·26320		2 98835	0·26407		2·98827	0·26494		2·98820	0·26581	3
4		3·98467	0·34978		3·98457	0 35094		3·98447	0·35210		3·98437	0·35325		3·98426	0·35441	4
5		4·98084	0·43722		4·98071	0·43867		4·98059	0·44012		4·98046	0·44157		4·98033	0·44302	5
6		5·97701	0·52467		5·97686	0·52641		5·97670	0·52815		5·97655	0·52988		5·97640	0·53162	6
7		6·97318	0·61211		6·97300	0·61414		6·97282	0·61617		6·97264	0·61820		6·97246	0·62023	7
8		7·96935	0·69956		7·96915	0·70188		7·96894	0·70420		7·96874	0·70651		7·96853	0·70883	8
9		8·96552	0·78700		8·96529	0·78961		8·96506	0·79222		8·96483	0·79483		8·96460	0·79744	9
10	59	9·96169	0·87445	58	9·96143	0·87735	57	9·96118	0·88025	56	9·96092	0·88314	55	9·96067	0·88604	10
1	11	0·99591	0·09034	12	0·99588	0·09063	13	0·99585	0·09092	14	0·99583	0·09121	15	0·99580	0·09150	1
2		1·99182	0·18068		1·99176	0·18126		1·99171	0·18184		1·99166	0·18242		1·99160	0·18300	2
3		2·98773	0 27102		2·98765	0·27189		2·98757	0·27276		2·98749	0·27363		2·98741	0·27450	3
4		3·98364	0·36137		3·98353	0·36253		3·98343	0·36368		3·98332	0·36484		3·98321	0·36600	4
5		4·97955	0·45171		4·97942	0·45316		4·97929	0·45461		4·97915	0·45606		4·97902	0·45750	5
6		5·97546	0·54205		5·97530	0·54379		5·97514	0·54553		5·97498	0·54727		5·97482	0·54900	6
7		6·97137	0·63240		6·97119	0·63442		6·97100	0·63645		6·97082	0·63848		6·97063	0·64051	7
8		7·96728	0·72274		7·96707	0·72506		7·96686	0·72737		7·96665	0·72969		7·96643	0·73201	8
9		8·96319	0·81308		8·96295	0·81569		8·96272	0·81830		8·96248	0·82090		8·96224	0·82351	9
10	49	9·95910	0 90343	48	9·95884	0 90632	47	9·95858	0·90922	46	9·95831	0·91212	45	9·95805	0·91501	10
1	21	0·99564	0·09324	22	0·99561	0·09352	23	0·99558	0·09381	24	0·99556	0·09410	25	0·99553	0·09439	1
2		1·99128	0·18648		1·99123	0·18705		1·99117	0·18763		1 99112	0·18821		1·99106	0·18879	2
3		2·98693	0·27972		2·98684	0·28058		2·98676	0·28145		2·98668	0·28232		2·98660	0·28319	3
4		3·98257	0·37296		3·98246	0·37411		3·98235	0·37527		3·98224	0·37643		3·98213	0·37759	4
5		4·97821	0·46620		4·97808	0·46764		4·97794	0·46909		4·97781	0·47054		4·97767	0·47199	5
6		5·97386	0·55944		5·97370	0·56117		5·97353	0·56291		5·97337	0·56464		5·97320	0·56638	6
7		6·96950	0·65268		6·96931	0·65470		6·96912	0·65673		6·96893	0·65875		6·96874	0·66078	7
8		7·96514	0·74592		7·96493	0·74823		7·96471	0·75054		7·96449	0·75286		7·96427	0·75518	8
9		8·96079	0·83916		8·96054	0·84176		8·96030	0·84436		8·96005	0·84697		8·95981	0·84958	9
10	39	9.95643	0·93240	38	9·95616	0·93529	37	9·95589	0·93818	36	9·95562	0·94108	35	9·95534	0·94398	10
1	31	0·99536	0·09613	32	0·99534	0·09642	33	0·99531	0·09671	34	0·99528	0·09700	35	0·99525	0·09729	1
2		1·99073	0·19227		1·99068	0·19284		1·99062	0·19342		1·99056	0·19400		1·99051	0·19458	2
3		2·98610	0·28840		2·98602	0·28927		2·98593	0·29014		2·98585	0·29101		2·98576	0·29188	3
4		3·98147	0·38454		3·98136	0·38569		3·98124	0·38685		3·98113	0·38801		3·98102	0·38917	4
5		4·97684	0·48067		4·97670	0·48212		4·97656	0·48357		4·97642	0·48502		4·97627	0·48646	5
6		5·97220	0·57681		5·97204	0·57854		5·97187	0·58028		5·97170	0·58202		5·97153	0·58376	6
7		6 96757	0·67294		6·96738	0·67497		6·96718	0·67700		6·96698	0·67902		6·96678	0·68105	7
8		7.96294	0·76908		7·96272	0·77139		7·96249	0·77371		7·96227	0·77603		7·96204	0·77834	8
9		8·95831	0·86521		8·95806	0·86782		8·95780	0·87042		8·95755	0·87303		8·95730	0·87564	9
10	29	9·95368	0·96135	28	9·95340	0·96424	27	9·95312	0·96714	26	9·95284	0·97004	25	9·95255	0·97293	10
1	41	0·99508	0·09903	42	0·99505	0·09932	43	0·99502	0·09960	44	0·99499	0·09989	45	0·99496	0·10018	1
2		1·99016	0·19806		1·99011	0·19864		1·99005	0·19921		1·98999	0·19979		1·98993	0·20037	2
3		2·98525	0·29709		2·98516	0·29796		2·98507	0·29882		2·98499	0·29969		2·98490	0·30056	3
4		3·98033	0·39612		3·98022	0·39728		3·98010	0·39843		3·97999	0·39959		3·97987	0·40075	4
5		4·97542	0·49515		4·97527	0·49660		4·97513	0·49804		4·97498	0·49949		4·97484	0·50094	5
6		5·97050	0·59418		5·97033	0·59592		5·97015	0·59765		5·96998	0·59939		5·96981	0·60112	6
7		6·96559	0·69321		6·96538	0·69524		6·96518	0·69726		6 96498	0·69929		6·96477	0·70131	7
8		7·96067	0·79224		7·96044	0·79456		7·96021	0·79687		7·95998	0·79918		7·95974	0·80150	8
9		8·95575	0·89127		8·95550	0·89388		8·95523	0·89648		8·95497	0·89908		8·95471	0·90169	9
10	19	9·95084	0·99030	18	9·95055	0·99320	17	9·95026	0·99609	16	9·94997	0·99898	15	9·94968	1·00188	10
1	51	0·99479	0·10192	52	0·99476	0·10221	53	0·99473	0·10250	54	0·99470	0·10279	55	0·99467	0·10308	1
2		1·98958	0·20384		1·98952	0·20442		1·98946	0·20500		1·98940	0·20558		1·98934	0·20616	2
3		2·98437	0·30577		2·98428	0·30664		2·98419	0·30750		2·98410	0·30837		2·98401	0·30924	3
4		3·97916	0·40769		3·97905	0·40885		3·97893	0·41001		3·97881	0·41117		3·97869	0·41232	4
5		4·97396	0·50962		4·97381	0·51106		4·97366	0·51251		4·97351	0·51396		4·97336	0·51541	5
6		5·96875	0·61154		5·96857	0·61328		5·96839	0·61501		5·96821	0·61675		5·96803	0·61849	6
7		6·96354	0·71347		6·96333	0·71549		6·96312	0·71752		6·96291	0·71954		6·96271	0·72157	7
8		7·95833	0·81539		7·95810	0·81771		7·95786	0·82002		7·95762	0·82234		7·95738	0·82465	8
9		8·95312	0·91732		8·95286	0·91992		8·95259	0·92252		8·95232	0·92513		8·95205	0·92773	9
10	09	9·94792	1·01924	08	9·94762	1·02213	07	9·94732	1·02503	06	9·94702	1·02792	05	9·94673	1·03082	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 84.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·99604	0·08889	07	0·99601	0·08918	08	0·99598	0·08947	09	0·99596	0·08976	10	0·99593	0·09005	1
2		1·99208	0·17778		1·99203	0·17836		1·99197	0·17894		1·99192	0·17952		1·99187	0·18010	2
3		2·98812	0·26668		2·98804	0·26755		2·98796	0·26842		2·98788	0·26929		2·98781	0·27015	3
4		3·98416	0·35557		3·98406	0·35673		3·98395	0·35789		3·98385	0·35905		3·98374	0·36021	4
5		4·98020	0·44447		4·98007	0·44592		4·97994	0·44736		4·97981	0·44881		4·97968	0·45026	5
6		5·97624	0·53336		5·97609	0·53510		5·97593	0·53684		5·97577	0·53858		5·97562	0·54031	6
7		6·97228	0·62226		6·97210	0·62428		6·97192	0·62631		6·97174	0·62834		6·97155	0·63037	7
8		7·96832	0·71115		7·96812	0·71347		7·96791	0·71579		7·96770	0·71810		7·96749	0·72042	8
9		8·96436	0·80004		8·96413	0·80265		8·96390	0·80526		8·96366	0·80787		8·96343	0·81047	9
10	54	9·96041	0·88894	53	9·96015	0·89184	52	9·95989	0·89473	51	9·95963	0·89763	50	9·95937	0·90053	10
1	16	0·99577	0·09179	17	0·99575	0·09208	18	0·99572	0·09237	19	0·99569	0·09266	20	0·99567	0·09295	1
2		1·99155	0·18358		1·99150	0·18416		1·99144	0·18474		1·99139	0·18532		1·99134	0·18590	2
3		2·98733	0·27537		2·98725	0·27624		2·98717	0·27711		2·98709	0·27798		2·98701	0·27885	3
4		3·98311	0·36716		3·98300	0·36832		3·98289	0·36948		3·98279	0·37064		3·98268	0·37180	4
5		4·97889	0·45895		4·97875	0·46040		4·97862	0·46185		4·97848	0·46330		4·97835	0·46475	5
6		5·97466	0·55074		5·97450	0·55248		5·97434	0·55422		5·97418	0·55596		5·97402	0·55770	6
7		6·97044	0·64253		6·97026	0·64456		6·97007	0·64659		6·96988	0·64862		6·96969	0·65065	7
8		7·96622	0·73433		7·96601	0·73664		7·96579	0·73896		7·96558	0·74128		7·96536	0·74360	8
9		8·96200	0·82612		8·96176	0·82872		8·96152	0·83133		8·96128	0·83394		8·96103	0·83655	9
10	44	9·95778	0·91791	43	9·95751	0·92081	42	9·95724	0·92370	41	9·95697	0·92660	40	9·95670	0·92950	10
1	26	0·99550	0·09468	27	0·99548	0·09497	28	0·99545	0·09526	29	0·99542	0·09555	30	0·99539	0·09584	1
2		1·99101	0·18937		1·99096	0·18995		1·99090	0·19053		1·99084	0·19111		1·99079	0·19169	2
3		2·98652	0·28406		2·98644	0·28493		2·98635	0·28579		2·98627	0·28666		2·98618	0·28753	3
4		3·98202	0·37875		3·98192	0·37990		3·98180	0·38106		3·98169	0·38222		3·98158	0·38338	4
5		4·97753	0·47343		4·97740	0·47488		4·97725	0·47633		4·97712	0·47778		4·97698	0·47922	5
6		5·97304	0·56812		5·97288	0·56986		5·97271	0·57159		5·97254	0·57333		5·97237	0·57507	6
7		6·96854	0·66281		6·96836	0·66483		6·96816	0·66686		6·96796	0·66889		6.96777	0·67092	7
8		7·96405	0·75750		7·96384	0·75981		7·96361	0·76213		7·96339	0·76444		7·96316	0·76676	8
9		8·95956	0·85218		8·95932	0·85479		8·95906	0·85739		8·95881	0·86000		8·95856	0·86261	9
10	34	9·95507	0·94687	33	9·95480	0·94977	32	9·95451	0·95266	31	9·95424	0·95556	30	9·95396	0·95845	10
1	36	0·99522	0·09758	37	0·99519	0·09787	38	0·99517	0·09816	39	0·99514	0·09845	40	0·99511	0·09874	1
2		1·99045	0·19516		1·99039	0·19574		1·99034	0·19632		1·99028	0·19690		1·99022	0·19748	2
3		2·98568	0·29274		2·98559	0·29361		2·98551	0·29448		2·98542	0·29535		2·98533	0.29622	3
4		3·98090	0·39033		3·98079	0·39148		3·98068	0·39264		3·98056	0·39380		3·98045	0·39496	4
5		4·97613	0·48791		4·97599	0·48936		4·97585	0·49081		4·97571	0·49225		4·97556	0·49370	5
6		5·97136	0·58549		5·97119	0·58723		5·97102	0·58897		5·97085	0·59070		5·97067	0·59244	6
7		6·96659	0·68308		6·96639	0·68510		6·96619	0·68713		6.96599	0·68915		6·96579	0·69118	7
8		7·96181	0·78066		7·96159	0·78297		7·96136	0·78529		7·96113	0·78761		7·96090	0·78992	8
9		8·95704	0·87824		8·95679	0·88085		8·95653	0·88345		8·95627	0·88606		8·95601	0·88866	9
10	24	9·95227	0·97583	23	9·95199	0·97872	22	9·95170	0·98162	21	9·95142	0·98451	20	9·95113	0·98740	10
1	46	0·99493	0·10047	47	0·99491	0·10076	48	0·99488	0·10105	49	0·99485	0·10134	50	0·99482	0·10163	1
2		1·98987	0·20095		1·98982	0·20153		1·98976	0·20211		1·98970	0·20269		1·98964	0·20327	2
3		2·98481	0·30143		2·98473	0·30230		2·98464	0·30316		2·98455	0·30403		2·98446	0·30490	3
4		3·97975	0·40191		3·97964	0·40306		3·97952	0·40422		3·97940	0·40538		3·97928	0·40654	4
5		4·97469	0·50238		4·97455	0·50383		4·97440	0·50528		4·97425	0·50672		4·97410	0·50817	5
6		5·96963	0·60286		5·96946	0·60460		5·96928	0·60633		5·96910	0·60807		5·96893	0·60981	6
7		6·96457	0·70334		6·96437	0·70536		6·96416	0·70739		6·96395	0·70941		6·96375	0·71144	7
8		7·95951	0·80382		7·95928	0·80613		7·95904	0·80845		7·95881	0·81076		7·95857	0·81308	8
9		8·95445	0·90429		8·95419	0·90690		8·95392	0·90950		8·95366	0·91211		8·95339	0·91471	9
10	14	9·94939	1·00477	13	9·94910	1·00767	12	9·94880	1·01056	11	9·94851	1·01345	10	9·94821	1·01635	10
1	56	0·99464	0·10337	57	0·99461	0·10366	58	0·99458	0·10395	59	0·99455	0·10423	60	0·99452	0·10452	1
2		1·98928	0·20674		1·98922	0·20732		1·98916	0·20790		1·98910	0·20847		1·98904	0·20905	2
3		2·98392	0·31011		2·98383	0·31098		2·98374	0·31185		2·98365	0·31271		2·98356	0·31358	3
4		3·97857	0·41348		3·97845	0·41464		3·97833	0·41580		3·97820	0·41695		3·97808	0·41811	4
5		4·97321	0·51685		4·97306	0·51830		4·97291	0·51975		4·97276	0·52119		4·97261	0·52264	5
6		5·96785	0·62022		5·96767	0·62196		5·96749	0·62370		5·96731	0·62543		5·96713	0·62717	6
7		6·96249	0·72359		6·96228	0·72562		6·96207	0·72765		6·96186	0·72967		6·96165	0·73169	7
8		7·95714	0·82696		7·95690	0·82928		7·95666	0·83160		7·95641	0·83391		7·95617	0·83622	8
9		8·95178	0·93034		8·95151	0·93294		8·95124	0·93555		8·95097	0·93815		8·95069	0·94075	9
10	04	9·94642	1·03371	03	9·94612	1·03660	02	9·94582	1·03950	01	9·94552	1·04239	00	9·94522	1·04528	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep	Lat.	D

3

84 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat	Dep.	M.	Lat.	Dep.	D.
1	01	0·99449	0·10481	02	0·99446	0·10510	03	0·99443	0·10539	04	0·99440	0·10568	05	0·99436	0·10597	1
2		1·98898	0·20963		1·98892	0·21021		1·98886	0·21079		1·98880	0·21137		1·98873	0·21194	2
3		2·98347	0·31445		2·98338	0·31532		2·98329	0·31618		2·98320	0·31705		2·98310	0·31792	3
4		3·97796	0·41927		3·97784	0·42042		3·97772	0·42158		3·97760	0·42274		3·97747	0·42389	4
5		4·97245	0·52408		4·97230	0·52553		4·97215	0·52698		4·97200	0·52842		4·97184	0·52987	5
6		5·96694	0·62890		5·96676	0·63064		5·96658	0·63237		5·96640	0·63411		5·96621	0·63584	6
7		6·96143	0·73372		6·96122	0·73574		6·96101	0·73777		6·96080	0·73979		6·96058	0·74182	7
8		7·95593	0·83854		7·95568	0·84085		7·95544	0·84317		7·95520	0·84548		7·95495	0·84779	8
9		8·95042	0·94336		8·95014	0·94596		8·94987	0·94856		8·94960	0·95117		8·94931	0·95377	9
10	59	9·94491	1·04817	58	9·94461	1·05107	57	9·94430	1·05396	56	9·94400	1.05685	55	9·94368	1·05974	10
1	11	0·99418	0·10771	12	0·99415	0·10799	13	0·99412	0·10828	14	0·99408	0·10857	15	0·99405	0·10886	1
2		1·98836	0·21542		1·98830	0·21599		1·98824	0·21657		1·98817	0·21715		1·98811	0·21773	2
3		2·98254	0·32313		2·98245	0·32399		2·98236	0·32486		2·98226	0·32573		2·98216	0·32660	3
4		3·97672	0·43084		3·97660	0·43199		3·97648	0·43315		3·97635	0·43431		3·97622	0·43546	4
5		4·97091	0·53855		4·97075	0·53999		4·97060	0·54144		4·97044	0·54288		4·97028	0·54433	5
6		5·96509	0·64626		5·96490	0·64799		5·96472	0·64973		5·96452	0·65146		5·96433	0·65320	6
7		6·95927	0·75397		6·95905	0·75599		6·95884	0·75801		6·95861	0·76004		6·95839	0·76206	7
8		7·95345	0·86168		7·95320	0·86399		7·95296	0·86630		7·95270	0·86862		7·95245	0·87093	8
9		8·94764	0·96939		8·94735	0·97199		8·94708	0·97459		8·94679	0·97719		8·94650	0·97980	9
10	49	9·94182	1·07710	48	9·94151	1·07999	47	9·94120	1·08288	46	9·94088	1·08577	45	9·94056	1·08867	10
1	21	0·99386	0·11060	22	0·99383	0·11089	23	0·99380	0·11118	24	0·99376	0·11146	25	0·99373	0·11175	1
2		1·98772	0·22120		1·98766	0·22178		1·98760	0·22236		1·98753	0·22293		1·98747	0·22351	2
3		2·98159	0·33180		2·98149	0·33267		2·98140	0·33354		2·98130	0·33440		2·98120	0·33527	3
4		3·97545	0·44240		3·97533	0·44356		3·97520	0·44472		3·97507	0·44587		3·97494	0·44703	4
5		4·96932	0·55300		4·96916	0·55445		4·96900	0·55590		4·96884	0·55734		4·96867	0·55879	5
6		5·96318	0·66361		5·96299	0·66534		5·96280	0·66708		5·96260	0·66881		5·96241	0·67054	6
7		6·95705	0·77421		6·95682	0·77623		6·95660	0·77826		6·95637	0·78028		6·95614	0·78230	7
8		7·95091	0·88481		7·95066	0·88712		7·95040	0·88944		7·95014	0·89175		7·94988	0·89406	8
9		8·94478	0·99541		8·94449	0·99801		8·94420	1·00062		8·94391	1·00322		8·94361	1·00582	9
10	39	9·93864	1·10601	38	9·93832	1·10890	37	9·93800	1·11180	36	9·93768	1·11469	35	9·93735	1·11758	10
1	31	0·99353	0·11349	32	0·99350	0·11378	33	0·99347	0·11407	34	0·99344	0·11435	35	0·99340	0·11464	1
2		1·98707	0·22698		1·98701	0·22756		1·98694	0·22814		1·98688	0·22871		1·98681	0·22929	2
3		2·98061	0·34047		2·98051	0·34134		2·98041	0·34221		2·98032	0·34307		2·98021	0·34394	3
4		3·97415	0·45396		3·97402	0·45512		3·97389	0·45628		3·97376	0·45743		3·97362	0·45859	4
5		4·96769	0·56746		4·96752	0·56890		4·96736	0·57035		4·96720	0·57179		4·96703	0·57324	5
6		5·96123	0·68095		5·96103	0·68268		5·96083	0·68442		5·96064	0·68615		5·96043	0·68788	6
7		6·95477	0·79444		6·95454	0·79646		6·95430	0·79849		6·95408	0·80051		6·95384	0·80253	7
8		7·94831	0·90793		7·94804	0·91024		7·94778	0·91256		7·94752	0·91487		7·94724	0·91718	8
9		8·94185	1·02142		8·94155	1·02403		8·94125	1·02663		8·94096	1·02923		8·94065	1·03183	9
10	29	9·93539	1·13492	28	9·93505	1·13781	27	9·93472	1·14070	26	9·93440	1·14359	25	9·93406	1·14648	10
1	41	0·99320	0·11638	42	0·99317	0·11667	43	0·99313	0·11696	44	0·99310	0·11724	45	0·99306	0·11753	1
2		1·98640	0·23276		1·98634	0·23334		1·98627	0·23392		1·98620	0·23449		1·98613	0·23507	2
3		2·97961	0·34914		2·97951	0·35001		2·97941	0·35088		2·97930	0·35174		2·97920	0·35261	3
4		3·97281	0·46552		3·97268	0·46668		3·97254	0·46784		3·97241	0·46899		3·97227	0·47014	4
5		4·96602	0·58190		4·96585	0·58335		4·96568	0·58480		4·96551	0·58624		4·96534	0·58768	5
6		5·95922	0·69829		5·95902	0·70002		5·95882	0·70176		5·95861	0·70349		5·95841	0·70522	6
7		6·95243	0·81467		6·95219	0·81669		6·95195	0·81872		6·95171	0·82073		6·95147	0·82276	7
8		7·94563	0·93105		7·94536	0·93336		7·94509	0·93568		7·94482	0·93798		7·94454	0·94029	8
9		8·93884	1·04743		8·93853	1·05003		8·93823	1·05264		8·93792	1·05523		8·93761	1·05783	9
10	19	9·93204	1·16381	18	9·93170	1·16670	17	9·93136	1·16960	16	9·93102	1·17248	15	9·93068	1·17537	10
1	51	0·99286	0·11927	52	0·99282	0·11955	53	0·99279	0·11984	54	0·99275	0·12013	55	0·99272	0·12042	1
2		1·98572	0·23854		1·98565	0·23911		1·98558	0·23969		1·98551	0·24027		1·98544	0·24085	2
3		2·97858	0·35781		2·97848	0·35867		2·97837	0·35954		2·97827	0·36041		2·97816	0·36127	3
4		3·97144	0·47708		3·97130	0·47823		3·97116	0·47939		3·97102	0·48054		3·97088	0·48170	4
5		4·96430	0·59635		4·96413	0·59779		4·96396	0·59924		4·96378	0·60068		4·96361	0·60212	5
6		5·95717	0·71562		5·95696	0·71735		5·95675	0·71908		5·95654	0·72082		5·95633	0·72255	6
7		6·95003	0·83489		6·94978	0·83691		6·94954	0·83893		6·94930	0·84095		6·94905	0·84297	7
8		7·94289	0·95416		7·94261	0·95647		7·94233	0·95878		7·94205	0·96109		7·94177	0·96340	8
9		8·93575	1·07343		8·93544	1·07603		8·93512	1·07863		8·93481	1·08123		8·93450	1·08383	9
10	09	9·92861	1·19270	08	9·92827	1·19559	07	9·92792	1·19848	06	9·92757	1·20136	05	9·92722	1·20425	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·99433	0·10626	07	0·99430	0·10655	08	0·99427	0·10684	09	0·99424	0·10713	10	0·99421	0·10742	1
2		1·98867	0·21252		1·98861	0·21310		1·98855	0·21368		1·98848	0·21426		1·98842	0·21484	2
3		2·98301	0·31879		2·98292	0·31965		2·98282	0·32052		2·98273	0·32139		2·98264	0·32226	3
4		3·97735	0·42505		3·97722	0·42621		3·97710	0·42737		3·97697	0·42852		3·97685	0·42968	4
5		4·97169	0·53132		4·97153	0·53276		4·97138	0·53421		4·97122	0·53565		4·97106	0·53710	5
6		5·96602	0·63758		5·96584	0·63931		5·96565	0·64105		5·96546	0·64279		5·96528	0·64452	6
7		6·96036	0·74384		6·96014	0·74587		6·95993	0·74789		6·95971	0·74992		6·95949	0·75194	7
8		7·95470	0·85011		7·95445	0·85242		7·95420	0·85474		7·95395	0·85705		7·95370	0·85936	8
9		8·94904	0·95637		8·94876	0·95897		8·94848	0·96158		8·94820	0·96418		8·94792	0·96678	9
10	54	9·94338	1·06264	53	9·94307	1·06553	52	9·94276	1·06842	51	9·94244	1·07131	50	9 94213	1·07421	10
1	16	0·99402	0·10915	17	0·99399	0·10944	18	0·99396	0·10973	19	0·99392	0·11002	20	0·99389	0·11031	1
2		1·98804	0·21831		1·98798	0·21889		1·98792	0·21946		1·98785	0·22004		1·98779	0·22062	2
3		2·98207	0·32746		2·98197	0·32833		2·98188	0·32920		2·98178	0·33007		2·98169	0·33093	3
4		3·97609	0·43662		3·97597	0·43778		3·97584	0·43893		3·97571	0·44009		3·97558	0·44125	4
5		4·97012	0·54578		4·96996	0·54722		4·96980	0·54867		4·96964	0·55011		4·96948	0·55156	5
6		5·96414	0·65493		5·96395	0·65667		5·96376	0·65840		5·96357	0·66014		5·96338	0·66187	6
7		6·95817	0·76409		6·95794	0·76611		6·95772	0·76814		6·95750	0·77016		6·95727	0·77218	7
8		7·95219	0·87324		7·95194	0·87556		7·95168	0·87787		7·95143	0·88018		7·95117	0·88250	8
9		8·94622	0·98240		8·94593	0·98500		8·94564	0 98760		8·94536	0·99021		8·94507	0·99281	9
10	44	9·94024	1·09156	43	9·93992	1·09445	42	9·93961	1·09734	41	9·93929	1·10023	40	9·93897	1·10312	10
1	26	0·99370	0·11204	27	0·99367	0·11233	28	0·99363	0·11262	29	0·99360	0·11291	30	0·99357	0·11320	1
2		1·98740	0·22409		1·98734	0·22467		1·98727	0·22525		1·98720	0·22582		1·98714	0·22640	2
3		2·98110	0·33614		2·98101	0·33700		2·98091	0·33787		2·98081	0·33874		2·98071	0·33960	3
4		3·97481	0·44818		3·97468	0·44934		3·97455	0·45050		3·97441	0·45165		3·97428	0·45281	4
5		4·96851	0·56023		4·96835	0·56168		4·96818	0·56312		4·96802	0·56457		4·96786	0·56601	5
6		5·96221	0·67228		5·96202	0·67401		5·96182	0·67575		5·96162	0·67748		5·96143	0·67921	6
7		6·95592	0·78432		6·95569	0·78635		6·95546	0·78837		6·95523	0·79039		6·95500	0·79242	7
8		7·94962	0·89637		7·94936	0·89868		7·94910	0·90100		7·94883	0·90331		7·94857	0·90562	8
9		8·94332	1·00842		8·94303	1·01102		8·94273	1·01362		8·94244	1·01622		8·94214	1·01882	9
10	34	9·93703	1·12047	33	9·93670	1·12336	32	9·93637	1·12625	31	9·93604	1·12914	30	9·93572	1·13203	10
1	36	0·99337	0·11493	37	0·99333	0·11522	38	0·99330	0·11551	39	0·99327	0·11580	40	0·99323	0·11609	1
2		1·98674	0·22987		1·98667	0·23045		1·98661	0·23103		1·98654	0·23160		1·98647	0·23218	2
3		2·98011	0·34481		2·98001	0·34567		2·97991	0·34654		2·97981	0·34741		2·97971	0·34827	3
4		3·97349	0·45974		3·97335	0·46090		3·97322	0·46206		3·97308	0·46321		3·97295	0·46437	4
5		4·96686	0 57468		4·96669	0·57613		4·96652	0·57757		4·96636	0·57902		4·96619	0·58046	5
6		5·96023	0·68962		5·96003	0·69135		5·95983	0·69309		5·95963	0·69482		5·95943	0·69655	6
7		6·95360	0·80456		6·95337	0·80658		6·95313	0·80860		6·95290	0·81062		6·95266	0·81265	7
8		7·94698	0·91949		7·94671	0·92180		7·94644	0·92412		7·94617	0·92643		7·94590	0·92874	8
9		8·94035	1·03443		8·94005	1·03703		8·93975	1·03963		8·93944	1·04223		8·93914	1·04483	9
10	24	9·93372	1·14937	23	9·93339	1·15226	22	9·93305	1·15515	21	9·93272	1·15804	20	9·93238	1·16093	10
1	46	0·99303	0·11782	47	0·99300	0·11811	48	0·99296	0·11840	49	0·99293	0·11869	50	0·99289	0·11898	1
2		1·98606	0·23565		1·98600	0·23623		1·98593	0·23680		1·98586	0·23738		1·98579	0·23796	2
3		2·97910	0·35347		2·97900	0·35434		2·97889	0·35521		2·97879	0·35607		2·97868	0·35694	3
4		3·97213	0·47130		3·97200	0·47246		3·97186	0·47361		3·97172	0·47477		3·97158	0·47592	4
5		4·96517	0·58913		4·96500	0·59057		4·96482	0·59202		4·96465	0·59346		4·96448	0·59490	5
6		5·95820	0·70695		5·95800	0·70869		5·95779	0·71042		5·95758	0·71215		5·95737	0·71388	6
7		6·95123	0·82478		6·95100	0·82680		6·95075	0·82882		6·95051	0·83084		6·95027	0·83287	7
8		7·94427	0·94261		7·94400	0·94492		7·94372	0·94723		7·94344	0·94954		7·94317	0·95185	8
9		8·93730	1·06043		8·93700	1·06303		8·93668	1·06563		8·93637	1·06823		8·93606	1·07083	9
10	14	9·93034	1·17826	13	9 93000	1·18115	12	9·92965	1·18404	11	9·92931	1·18692	10	9·92896	1·18981	10
1	56	0·99268	0·12071	57	0·99265	0·12100	58	0·99261	0·12129	59	0·99258	0·12158	60	0·99254	0·12186	1
2		1·98537	0·24142		1·98530	0·24200		1·98523	0·24258		1·98516	0·24316		1·98509	0·24373	2
3		2·97806	0·36214		2·97795	0·36300		2·97785	0·36387		2·97774	0·36474		2·97763	0·36560	3
4		3·97074	0·48285		3·97060	0·48401		3·97046	0·48516		3·97032	0·48632		3·97018	0·48747	4
5		4·96343	0·60357		4·96326	0·60501		4·96308	0·60646		4·96290	0·60790		4·96273	0.60934	5
6		5·95612	0·72428		5·95591	0·72601		5·95570	0·72775		5·95548	0·72948		5·95527	0·73121	6
7		6·94881	0·84500		6·94856	0·84702		6·94831	0·84904		6·94807	0·85106		6·94782	0·85308	7
8		7·94149	0·96571		7·94121	0·96802		7·94093	0·97033		7·94065	0·97264		7·94037	0·97495	8
9		8·93418	1·08642		8·93386	1·08902		8·93355	1·09162		8·93323	1·09422		8·93291	1·09682	9
10	04	9·92687	1·20714	03	9 92652	1·21003	02	9·92617	1·21292	01	9·92581	1·21580	00	9·92546	1·21869	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.	Dep.	Lat.	D.

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7

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep.	D.
1	01	0·99251	0·12215	02	0·99247	0·12244	03	0·99243	0·12273	04	0·99240	0·12302	05	0·99236	0·12331	1
2		1·98502	0·24431		1·98495	0·24489		1·98487	0·24547		1·98480	0·24604		1·98473	0·24662	2
3		2·97753	0·36647		2·97742	0·36734		2·97731	0·36820		2·97721	0·36907		2·97710	0·36993	3
4		3·97004	0·48863		3·96990	0·48978		3·96975	0·49094		3·96961	0·49209		3·96947	0·49325	4
5		4·96255	0·61079		4·96237	0·61223		4·96219	0·61367		4·96201	0·61512		4·96184	0·61656	5
6		5·95506	0·73294		5·95485	0·73468		5·95463	0·73641		5·95442	0·73814		5·95420	0·73987	6
7		6·94757	0·85510		6·94732	0·85712		6·94707	0·85914		6·94682	0·86116		6·94657	0·86318	7
8		7·94008	0·97726		7·93980	0·97957		7·93951	0·98188		7·93922	0·98419		7·93894	0·98650	8
9		8·93259	1·09942		8·93227	1·10202		8·93195	1·10461		8·93163	1·10721		8·93131	1·10981	9
10	59	9·92510	1·22158	58	9·92475	1·22446	57	9·92439	1·22735	56	9·92403	1·23024	55	9·92368	1·23312	10
1	11	0·99215	0·12504	12	0·99211	0·12533	13	0·99207	0·12562	14	0·99204	0·12591	15	0·99200	0·12619	1
2		1·98430	0·25008		1·98422	0·25066		1·98415	0·25124		1·98408	0·25182		1·98400	0·25239	2
3		2·97645	0·37513		2·97634	0·37599		2·97623	0·37686		2·97612	0·37773		2·97601	0·37859	3
4		3·96860	0·50017		3·96845	0·50133		3·96831	0·50248		3·96816	0·50364		3·96801	0·50479	4
5		4·96075	0·62522		4·96057	0·62666		4·96039	0·62810		4·96020	0·62955		4·96002	0·63099	5
6		5·95290	0·75026		5·95268	0·75199		5·95246	0·75373		5·95224	0·75546		5·95202	0·75719	6
7		6·94505	0·87531		6·94480	0 87733		6·94454	0·87935		6·94429	0·88137		6·94403	0·88339	7
8		7·93720	1·00035		7·93691	1·00266		7·93662	1·00497		7·93633	1·00728		7·93603	1·00959	8
9		8·92935	1·12540		8·92903	1·12799		8·92870	1·13059		8·92837	1·13319		8·92804	1·13579	9
10	49	9·92151	1·25044	48	9·92114	1·25333	47	9·92078	1·25621	46	9·92041	1·25910	45	9·92005	1·26199	10
1	21	0·99178	0·12793	22	0·99174	0·12821	23	0·99170	0·12850	24	0·99167	0·12879	25	0·99163	0·12908	1
2		1·98356	0·25586		1·98349	0·25643		1·98341	0·25701		1·98334	0·25759		1·98326	0·25816	2
3		2·97534	0·38379		2·97523	0·38465		2·97512	0·38552		2·97501	0·38638		2·97490	0·38725	3
4		3·96713	0·51172		3·96698	0·51287		3·96683	0·51402		3·96668	0·51518		3·96653	0·51633	4
5		4·95891	0·63965		4·95873	0·64109		4·95854	0·64253		4·95835	0·64397		4·95816	0·64542	5
6		5·95069	0·76758		5·95047	0·76931		5·95025	0·77104		5·95002	0·77277		5·94980	0·77450	6
7		6·94248	0·89551		6·94222	0·89753		6·94196	0·89954		6·94169	0·90156		6·94143	0·90358	7
8		7·93426	1·02344		7·93396	1·02574		7·93366	1·02805		7·93336	1·03036		7·93306	1·03267	8
9		8·92604	1·15137		8·92571	1·15396		8·92537	1·15656		8·92504	1·15916		8·92470	1·16175	9
10	39	9·91783	1·27930	38	9·91746	1·28218	37	9·91708	1·28507	36	9·91671	1·28795	35	9·91633	1·29084	10
1	31	0·99140	0·13081	32	0·99136	0·13110	33	0·99133	0·13139	34	0·99129	0·13168	35	0·99125	0·13196	1
2		1·98281	0·26162		1·98273	0·26220		1·98266	0·26278		1·98258	0·26336		1·98250	0·26393	2
3		2·97422	0·39244		2·97410	0·39330		2·97399	0·39417		2·97387	0·39504		2·97376	0·39590	3
4		3·96562	0·52325		3·96547	0·52441		3·96532	0 52556		3·96516	0·52672		3·96501	0 52787	4
5		4·95703	0·65407		4·95684	0·65551		4·95665	0·65695		4·95646	0·65840		4·95627	0·65984	5
6		5·94844	0·78488		5·94821	0·78661		5·94798	0·78834		5·94775	0·79008		5·94752	0·79180	6
7		6·93984	0·91570		6·93958	0·91772		6·93931	0·91973		6·93904	0·92176		6·93877	0·92377	7
8		7·93125	1·04651		7·93095	1·04882		7·93064	1·05113		7·93033	1·05344		7·93003	1·05574	8
9		8·92266	1·17733		8·92231	1·17992		8·92197	1·18252		8·92163	1·18512		8·92128	1·18771	9
10	29	9·91407	1·30814	28	9·91368	1·31103	27	9·91330	1·31391	26	9·91292	1·31680	25	9·91254	1·31968	10
1	41	0·99102	0·13369	42	0·99098	0·13398	43	0·99094	0·13427	44	0·99090	0·13456	45	0·99086	0·13485	1
2		1·98204	0·26739		1·98196	0·26797		1·98188	0·26854		1·98181	0·26912		1·98173	0·26970	2
3		2·97306	0·40109		2·97294	0·40195		2·97283	0·40282		2·97271	0·40368		2·97259	0·40455	3
4		3·96408	0·53479		3·96393	0·53594		3·96377	0·53709		3·96362	0·53825		3·96346	0·53940	4
5		4·95511	0·66849		4·95491	0·66993		4·95472	0·67137		4·95452	0·67281		4·95432	0·67425	5
6		5·94613	0·80218		5·94589	0·80391		5·94566	0·80564		5·94543	0·80737		5·94519	0·80910	6
7		6·93715	0·93588		6·93688	0·93790		6·93660	0·93992		6·93633	0·94193		6·93606	0·94395	7
8		7·92817	1·06958		7·92786	1·07188		7·92755	1·07419		7·92724	1·07650		7·92692	1·07880	8
9		8·91919	1·20328		8·91884	1·20587		8·91849	1·20846		8·91814	1·21106		8·91779	1·21365	9
10	19	9·91022	1·33698	18	9 90983	1·33986	17	9·90944	1·34274	16	9·90905	1·34562	15	9·90866	1·34851	10
1	51	0·99062	0·13658	52	0·99058	0·13686	53	0·99054	0·13715	54	0·99051	0·13744	55	0·99046	0·13773	1
2		1·98125	0·27316		1·98117	0·27373		1·98109	0·27431		1·98102	0·27488		1·98093	0·27546	2
3		2·97188	0·40974		2·97176	0·41060		2 97164	0·41146		2·97153	0·41233		2·97140	0·41319	3
4		3 96251	0·54632		3·96235	0·54747		3·96219	0·54862		3·96204	0·54977		3·96187	0·55093	4
5		4 95314	0·68290		4·95294	0·68434		4·95274	0·68578		4·95255	0·68722		4·95234	0·68866	5
6		5·94377	0·81948		5·94353	0·82120		5·94329	0 82293		5·94306	0·82466		5·94281	0·82639	6
7		6·93440	0·95606		6·93412	0·95807		6·93384	0·96009		6·93357	0·96211		6·93328	0·96412	7
8		7·92503	1·09264		7·92471	1·09194		7·92439	1·09725		7·92408	1·09955		7·92375	1·10186	8
9		8·91566	1·22922		8·91530	1·23181		8·91494	1·23440		8·91459	1·23700		8·91422	1·23959	9
10	09	9 90629	1·36580	08	9·90589	1·36868	07	9·90549	1·37156	06	9·90510	1·37444	05	9·90469	1·37732	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M	Dep.	Lat.	D.

DEG. 82.

OF THE UNIVERSITY OF CALIFORNIA

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.	
1	06	0·99233	0·12360	07	0·99229	0·12389	08	0·99226	0·12417	09	0·99222	0·12446	10	0·99218	0.12475	1	
2		1·98466	0·24720		1·98459	0·24778		1·98452	0·24835		1·98444	0·24893		1·98437	0·24951	2	
3		2·97699	0·37080		2·97688	0·37167		2·97678	0·37253		2·97667	0·37340		2·97656	0·37426	3	
4		3·96932	0·49440		3·96918	0·49556		3·96904	0·49671		3·96889	0·49786		3·96874	0·49902	4	
5		4·96166	0·61800		4·96148	0·61945		4·96130	0·62089		4·96111	0·62233		4·96093	0·62378	5	
6		5·95399	0·74160		5·95377	0·74334		5·95356	0·74507		5·95334	0·74680		5·95312	0·74853	6	
7		6·94632	0·86521		6·94607	0·86723		6·94582	0·86925		6·94556	0·87127		6·94531	0·87329	7	
8		7·93865	0·98881		7·93836	0·99112		7·93808	0·99343		7·93778	0·99573		7·93749	0·99804	8	
9		8·93098	1·11241		8·93066	1·11501		8·93034	1·11760		8·93001	1·12020		8·92968	1·12280	9	
10	54	9·92332	1·23601	53	9·92296	1·23890	52	9·92260	1·24178	51	9·92223	1·24467	50	9·92187	1·24756	10	
1	16	0·99196	0·12648	17	0·99193	0·12677	18	0·99189	0·12706	19	0·99185	0·12735	20	0·99182	0·12764	1	
2		1·98393	0·25297		1·98386	0·25355		1·98378	0·25412		1·98371	0·25470		1·98364	0·25528	2	
3		2·97590	0·37946		2·97579	0·38032		2·97568	0·38119		2·97557	0·38205		2·97546	0·38292	3	
4		3·96787	0·50595		3·96772	0·50710		3·96757	0·50825		3·96742	0·50941		3·96728	0·51056	4	
5		4·95984	0·63243		4·95965	0·63388		4·95947	0·63532		4·95928	0·63676		4·95910	0·63820	5	
6		5·95180	0·75892		5·95158	0·76065		5·95136	0·76238		5·95114	0·76411		5·95092	0·76584	6	
7		6·94377	0·88541		6·94351	0·88743		6·94326	0·88945		6·94300	0·89147		6·94274	0·89349	7	
8		7·93574	1·01190		7·93545	1·01420		7·93515	1·01651		7·93485	1·01882		7·93456	1·02113	8	
9		8·92771	1·13838		8·92738	1·14098		8·92704	1·14358		8·92671	1·14617		8·92638	1·14877	9	
10	44	9·91968	1·26487	43	9·91931	1·26776	42	9·91894	1·27064	41	9·91857	1·27353	40	9·91820	1·27641	10	
1	26	0·99159	0·12937	27	0·99155	0·12966	28	0·99152	0·12994	29	0·99148	0·13023	30	0·99144	0·13052	1	
2		1·98319	0·25874		1·98311	0·25932		1·98304	0·25989		1·98296	0·26047		1·98288	0·26105	2	
3		2·97478	0·38811		2·97467	0·38898		2·97456	0·38984		2·97444	0·39071		2·97433	0·39157	3	
4		3·96638	0·51749		3·96623	0·51864		3·96608	0·51979		3·96593	0·52095		3·96577	0·52210	4	
5		4·95798	0·64686		4·95779	0·64830		4·95760	0·64974		4·95741	0·65118		4·95722	0·65263	5	
6		5·94957	0·77623		5·94935	0·77796		5·94912	0·77969		5·94889	0·78142		5·94866	0·78315	6	
7		6·94117	0·90560		6·94090	0·90762		6·94064	0·90964		6·94037	0·91166		6·94011	0·91368	7	
8		7·93276	1·03498		7·93246	1·03728		7·93216	1·03959		7·93186	1·04190		7·93155	1·04420	8	
9		8·92436	1·16435		8·92402	1·16694		8·92368	1·16954		8·92334	1·17214		8·92300	1·17473	9	
10	34	9·91596	1·29372	33	9·91558	1·29661	32	9·91520	1·29949	31	9·91482	1·30237	30	9·91445	1·30526	10	
1	36	0·99121	0·13225	37	0·99117	0·13254	38	0·99113	0·13283	39	0·99110	0·13312	40	0·99106	0·13341	1	
2		1·98243	0·26451		1·98235	0·26508		1·98227	0·26566		1·98220	0·26624		1·98212	0·26682	2	
3		2·97364	0·39676		2·97353	0·39763		2·97341	0·39849		2·97330	0·39936		2·97318	0·40023	3	
4		3·96486	0·52902		3·96470	0·53017		3·96455	0·53133		3·96440	0·53248		3·96424	0·53364	4	
5		4·95607	0·66128		4·95588	0·66272		4·95569	0·66416		4·95550	0·66560		4·95530	0·66705	5	
6		5·94729	0·79353		5·94706	0·79526		5·94683	0·79699		5·94660	0·79872		5·94636	0·80046	6	
7		6·93850	0·92579		6·93823	0·92781		6·93796	0·92983		6·93770	0·93184		6·93742	0·93387	7	
8		7·92972	1·05805		7·92941	1·06035		7·92910	1·06266		7·92880	1·06497		7·92848	1·06728	8	
9		8·92093	1·19030		8·92059	1·19290		8·92024	1·19549		8·91990	1·19809		8·91954	1·20069	9	
10	24	9·91215	1·32256	23	9·91177	1·32544	22	9·91138	1·32833	21	9·91100	1·33121	20	9·91061	1·33410	10	
1	46	0·99082	0·13513	47	0·99078	0·13542	48	0·99074	0·13571	49	0·99070	0·13600	50	0·99066	0·13629	1	
2		1·98165	0·27027		1·98157	0·27085		1·98149	0·27143		1·98141	0·27200		1·98133	0·27258	2	
3		2·97247	0·40541		2·97236	0·40628		2·97224	0·40714		2·97212	0·40801		2·97200	0·40887	3	
4		3·96330	0·54055		3·96314	0·54170		3·96299	0·54286		3·96283	0·54401		3·96267	0·54516	4	
5		4·95413	0·67569		4·95393	0·67713		4·95373	0·67857		4·95353	0·68001		4·95334	0·68146	5	
6		5·94495	0·81083		5·94472	0·81256		5·94448	0·81429		5·94424	0·81602		5·94401	0·81775	6	
7		6·93578	0·94597		6·93551	0·94799		6·93523	0·95000		6·93495	0·95202		6·93468	0·95404	7	
8		7·92661	1·08111		7·92629	1·08341		7·92598	1·08572		7·92566	1·08803		7·92534	1·09033	8	
9		8·91743	1·21625		8·91708	1·21884		8·91673	1·22144		8·91637	1·22403		8·91601	1·22662	9	
10	14	9·90826	1·35139	13	9·90787	1·35427	12	9·90747	1·35715	11	9·90708	1·36003	10	9·90668	1·36292	10	7
1	56	0·99042	0·13802	57	0·99038	0·13830	58	0·99034	0·13859	59	0·99030	0·13888	60	0·99026	0·13917	1	
2		1·98085	0·27604		1·98077	0·27661		1·98069	0·27719		1·98061	0·27777		1·98053	0·27834	2	
3		2·97128	0·41406		2·97116	0·41492		2·97104	0·41579		2·97092	0·41665		2·97080	0·41751	3	
4		3·96171	0·55208		3·96155	0·55323		3·96139	0·55438		3·96123	0·55554		3·96107	0·55669	4	
5		4·95214	0·69010		4·95194	0·69154		4·95174	0·69298		4·95154	0·69442		4·95134	0·69586	5	
6		5·94257	0·82812		5·94233	0·82985		5·94209	0·83158		5·94185	0·83331		5·94160	0·83503	6	
7		6·93300	0·96614		6·93272	0·96816		6·93244	0·97017		6·93215	0·97219		6·93187	0·97421	7	5
8		7·92343	1·10416		7·92311	1·10647		7·92279	1·10877		7·92246	1·11108		7·92214	1·11338	8	
9		8·91386	1·24218		8·91350	1·24478		8·91314	1·24737		8·91277	1·24996		8·91241	1·25255	9	
10	04	9·90429	1·38020	03	9·90389	1·38309	02	9·90349	1·38597	01	9·90308	1·38885	00	9·90268	1·39173	10	
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.	Dep.	Lat.	D.	

82 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·99022	0·13946	02	0·99018	0·13974	03	0·99014	0·14003	04	0·99010	0·14032	05	0·99006	0·14061	1
2		1·98045	0·27892		1·98037	0·27949		1·98029	0·28007		1·98021	0·28065		1·98012	0·28122	2
3		2·97068	0·41838		2·97056	0·41924		2·97043	0·42011		2·97031	0·42097		2·97019	0·42183	3
4		3·96091	0·55784		3·96074	0·55899		3·96058	0·56014		3·96042	0·56130		3·96025	0·56245	4
5		4·95113	0·69730		4·95093	0·69874		4·95073	0·70018		4·95052	0·70162		4·95032	0·70306	5
6		5·94136	0·83676		5·94112	0·83849		5·94087	0·84022		5·94063	0·84195		5·94038	0·84367	6
7		6·93159	0·97622		6·93130	0·97824		6·93102	0·98026		6·93073	0·98227		6·93045	0·98429	7
8		7·92182	1·11568		7·92149	1·11799		7·92116	1·12029		7·92084	1·12260		7·92051	1·12490	8
9		8·91204	1·25515		8·91168	1·25774		8·91131	1·26033		8·91094	1·26292		8·91058	1·26551	9
10	59	9·90227	1·39461	58	9·90187	1·39749	57	9·90146	1·40037	56	9·90105	1·40325	55	9·90064	1·40613	10
1	11	0·98981	0·14234	12	0·98977	0·14262	13	0·98973	0·14291	14	0·98969	0·14320	15	0·98965	0·14349	1
2		1·97963	0·28468		1·97955	0·28525		1·97946	0·28583		1·97938	0·28640		1·97930	0·28698	2
3		2·96945	0·42702		2·96932	0·42788		2·96920	0·42875		2·96907	0·42961		2·96895	0·43047	3
4		3·95927	0·56936		3·95910	0·57051		3·95893	0·57166		3·95877	0·57281		3·95860	0·57397	4
5		4·94908	0·71170		4·94888	0·71314		4·94867	0·71458		4·94846	0·71602		4·94825	0·71746	5
6		5·93890	0·85404		5·93865	0·85577		5·93840	0·85750		5·93815	0·85922		5·93790	0·86095	6
7		6·92872	0·99638		6·92843	0·99840		6·92814	1·00041		6·92785	1·00243		6·92755	1·00444	7
8		7·91854	1·13872		7·91820	1·14103		7·91787	1·14333		7·91754	1·14563		7·91721	1·14794	8
9		8·90835	1·28106		8·90798	1·28366		8·90761	1·28625		8·90723	1·28884		8·90686	1·29143	9
10	49	9·89817	1·42341	48	9·89776	1·42629	47	9·89734	1·42916	46	9·89693	1·43204	45	9·89651	1·43492	10
1	21	0·98939	0·14522	22	0·98935	0·14550	23	0·98931	0·14579	24	0·98927	0·14608	25	0·98923	0·14637	1
2		1·97879	0·29044		1·97871	0·29101		1·97862	0·29159		1·97854	0·29216		1·97846	0·29274	2
3		2·96819	0·43566		2·96807	0·43652		2·96794	0·43738		2·96781	0·43824		2·96769	0·43911	3
4		3·95759	0·58088		3·95742	0·58203		3·95725	0·58318		3·95708	0·58433		3·95692	0·58548	4
5		4·94699	0·72610		4·94678	0·72753		4·94657	0·72897		4·94636	0·73041		4·94615	0·73185	5
6		5·93639	0·87132		5·93614	0·87304		5·93588	0·87477		5.93563	0·87649		5·93538	0·87822	6
7		6·92579	1·01654		6·92550	1·01855		6·92520	1·02056		6·92490	1·02258		6·92461	1·02459	7
8		7·91519	1·16176		7·91485	1·16406		7·91451	1·16636		7·91417	1·16866		7·91384	1·17096	8
9		8·90459	1·30698		8·90421	1·30956		8·90383	1·31215		8·90345	1·31474		8·90307	1·31733	9
10	39	9·89399	1·45220	38	9·89357	1·45507	37	9·89314	1·45795	36	9·89272	1·46083	35	9·89230	1·46370	10
1	31	0·98897	0·14809	32	0·98893	0·14838	33	0·98888	0·14867	34	0·98884	0·14896	35	0·98879	0·14924	1
2		1·97794	0·29619		1·97786	0·29676		1·97777	0·29734		1·97768	0·29792		1·97759	0·29849	2
3		2·96691	0·44429		2·96679	0·44515		2·96665	0·44601		2·96652	0·44688		2·96639	0·44774	3
4		3·95589	0·59238		3·95572	0·59353		3·95554	0·59468		3·95537	0·59584		3·95519	0·59699	4
5		4·94486	0·74048		4·94465	0·74192		4·94443	0·74336		4·94421	0·74480		4·94399	0·74623	5
6		5·93383	0·88858		5·93358	0·89030		5·93331	0·89203		5·93305	0·89376		5·93279	0·89548	6
7		6·92280	1·03667		6·92251	1·03869		6·92220	1·04070		6·92190	1·04272		6·92159	1·04473	7
8		7·91178	1·18477		7·91144	1·18707		7·91109	1·18937		7·91074	1·19168		7·91039	1·19398	8
9		8·90075	1·33287		8·90037	1·33546		8·89997	1·33805		8·89958	1·34064		8·89919	1·34322	9
10	29	9·88972	1·48097	28	9·88930	1·48384	27	9·88886	1·48672	26	9·88843	1·48960	25	9·88799	1·49247	10
1	41	0·98853	0·15097	42	0·98849	0·15126	43	0·98845	0·15154	44	0·98840	0·15183	45	0·98836	0·15212	1
2		1·97707	0·30194		1·97698	0·30252		1·97690	0·30309		1·97681	0·30367		1·97672	0·30424	2
3		2·96561	0·45291		2·96548	0·45378		2·96535	0·45464		2·96521	0·45550		2·96508	0·45637	3
4		3·95415	0·60389		3·95397	0·60504		3·95380	0·60619		3·95362	0·60734		3·95344	0·60849	4
5		4·94268	0·75486		4·94247	0·75630		4·94225	0·75774		4·94202	0·75918		4·94180	0·76061	5
6		5·93122	0·90583		5·93096	0·90756		5·93070	0·90929		5·93043	0·91101		5·93016	0·91274	6
7		6·91976	1·05681		6·91945	1·05882		6·91915	1·06083		6·91883	1·06285		6·91853	1·06486	7
8		7·90830	1·20778		7·90795	1·21008		7·90760	1·21238		7·90724	1·21468		7·90689	1·21698	8
9		8·89684	1·35875		8·89644	1·36134		8·89605	1·36393		8·89605	1·36652		8·89525	1·36911	9
10	19	9·88537	1·50973	18	9·88494	1·51260	17	9·88450	1·51548	16	9·88405	1·51836	15	9·88361	1·52123	10
1	51	0·98809	0·15384	52	0·98805	0·15413	53	0·98800	0·15442	54	0·98796	0·15471	55	0·98791	0·15499	1
2		1·97618	0·30769		1·97610	0·30827		1·97600	0·30884		1·97592	0·30942		1·97582	0·30999	2
3		2·96428	0·46154		2·96415	0·46240		2·96401	0·46326		2·96388	0·46413		2·96374	0·46499	3
4		3·95237	0·61539		3·95220	0·61654		3·95201	0·61769		3·95184	0·61884		3·95165	0·61999	4
5		4·94047	0·76924		4·94025	0·77067		4·94002	0·77211		4·93980	0·77355		4·93957	0·77498	5
6		5·92856	0·92308		5·92830	0·92481		5·92802	0·92653		5·92776	0·92826		5·92748	0·92998	6
7		6·91666	1·07693		6·91635	1·07894		6·91603	1·08096		6·91572	1·08297		6·91540	1·08498	7
8		7·90475	1·23078		7·90440	1·23308		7·90403	1·23538		7·90368	1·23768		7·90331	1·23998	8
9		8·89285	1·38463		8·89245	1·38722		8·89204	1·38980		8·89164	1·39239		8·89123	1·39498	9
10	09	9·88094	1·53848	08	9·88050	1·54135	07	9·88004	1·54423	06	9·87960	1·54710	05	9·87914	1·54997	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 81.

D	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·99002	0·14090	07	0·98998	0·14118	08	0·98994	0·14147	09	0·98990	0·14176	10	0·98985	0·14205	1
2		1·98004	0·28180		1·97996	0·28237		1·97988	0·28295		1·97980	0·28353		1·97971	0·28410	2
3		2·97007	0·42270		2·96994	0·42356		2·96982	0·42443		2·96970	0·42529		2·96957	0·42615	3
4		3·96009	0·56360		3·95993	0·56475		3·95976	0·56590		3·95960	0·56706		3·95943	0·56821	4
5		4·95011	0·70450		4·94991	0·70594		4·94970	0·70738		4·94950	0·70882		4·94929	0·71026	5
6		5·94014	0·84540		5·93989	0·84713		5·93964	0·84886		5·93940	0·85059		5·93915	0·85231	6
7		6·93016	0·98630		6·92987	0·98832		6·92959	0·99034		6·92930	0·99235		6·92901	0·99437	7
8		7·92018	1·12720		7·91986	1·12951		7·91953	1·13181		7·91920	1·13412		7·91887	1·13642	8
9		8·91021	1·26811		8·90984	1·27070		8·90947	1·27329		8·90910	1·27588		8·90873	1·27847	9
10	54	9·90023	1·40901	53	9·89982	1·41189	52	9·89941	1·41477	51	9·89900	1·41765	50	9·89859	1·42053	10
1	16	0·98961	0·14378	17	0·98956	0·14406	18	0·98952	0·14435	19	0·98948	0·14464	20	0·98944	0·14493	1
2		1·97922	0·28756		1·97913	0·28813		1·97905	0·28871		1·97896	0·28928		1·97888	0·28986	2
3		2·96883	0·43134		2·96870	0 43220		2·96857	0·43306		2·96845	0·43393		2·96832	0·43479	3
4		3·95844	0·57512		3·95827	0·57627		3·95810	0·57742		3·95793	0·57857		3·95776	0·57972	4
5		4·94805	0·71890		4·94783	0·72034		4·94762	0·72178		4·94741	0·72322		4·94720	0·72466	5
6		5·93766	0·86268		5·93740	0·86441		5·93715	0·86613		5·93690	0·86786		5·93664	0·86959	6
7		6·92727	1·00646		6·92697	1·00847		6·92668	1·01049		6 92638	1·01250		6·92609	1·01452	7
8		7·91688	1·15024		7·91653	1·15254		7·91620	1·15484		7·91587	1·15715		7·91553	1·15945	8
9		8·90649	1·29402		8·90610	1·29661		8·90573	1·29920		8·90535	1·30179		8·90497	1·30438	9
10	44	9·89610	1·43780	43	9·89567	1·44068	42	9·89525	1·44356	41	9·89483	1·44644	40	9·89441	1·44932	10
1	26	0·98918	0·14665	27	0·98914	0·14694	28	0·98910	0·14723	29	0·98905	0·14752	30	0·98901	0·14780	1
2		1·97837	0·29331		1·97828	0·29389		1·97820	0·29446		1·97811	0·29504		1·97803	0·29561	2
3		2·96756	0·43997		2·96743	0·44083		2·96730	0·44170		2·96717	0·44256		2·96704	0·44342	3
4		3·95674	0·58663		3·95657	0·58778		3·95640	0·58893		3·95623	0·59008		3·95606	0·59123	4
5		4·94593	0·73329		4·94572	0·73473		4·94550	0·73617		4·94529	0·73760		4·94508	0·73904	5
6		5·93512	0·87995		5·93486	0·88167		5·93461	0·88340		5·93435	0·88513		5·93409	0·88685	6
7		6·92431	1·02660		6·92401	1·02862		6·92371	1·03063		6·92341	1·03265		6 92311	1·03466	7
8		7·91349	1·17326		7·91315	1·17557		7·91281	1·17787		7·91247	1·18017		7·91212	1·18247	8
9		8 90268	1·31992		8·90230	1·32251		8·90191	1·32510		8·90152	1·32769		8·90114	1·33028	9
10	34	9·89187	1·46658	33	9·89144	1·46946	32	9·89101	1·47234	31	9·89058	1·47521	30	9·89016	1·47809	10
1	36	0·98875	0·14953	37	0·98871	0·14982	38	0·98866	0·15011	39	0·98862	0·15039	40	0·98858	0·15068	1
2		1·97751	0·29907		1·97742	0·29964		1·97733	0·30022		1·97725	0·30079		1·97716	0·30137	2
3		2·96626	0·44860		2·96613	0·44946		2·96600	0·45033		2.96587	0·45119		2·96574	0·45205	3
4		3·95502	0·59814		3·95485	0·59929		3·95467	0·60044		3·95450	0·60159		3·95432	0·60274	4
5		4·94378	0·74767		4·94356	0·74911		4·94334	0·75055		4·94312	0·75199		4·94290	0·75342	5
6		5·93253	0·89721		5·93227	0·89893		5·93201	0·90066		5·93175	0·90238		5·93149	0·90411	6
7		6·92129	1·04674		6·92098	1·04876		6·92068	1·05077		6·92037	1·05278		6·92007	1·05479	7
8		7·91005	1·19628		7·90970	1·19858		7·90935	1·20088		7·90900	1·20318		7·90865	1·20548	8
9		8·89880	1·34581		8·89841	1·34840		8·89802	1·35099		8·89763	1·35358		8·89723	1·35617	9
10	24	9·88756	1·49535	23	9·88712	1·49823	22	9·88669	1·50110	21	9·88625	1·50398	20	9·88581	1·50685	10
1	46	0·98831	0·15241	47	0·98827	0·15269	48	0·98822	0·15298	49	0·98818	0·15327	50	0·98813	0·15356	1
2		1·97663	0·30482		1·97654	0·30539		1·97645	0·30597		1·97636	0·30654		1·97627	0·30712	2
3		2·96495	0·45723		2·96481	0·45809		2·96468	0·45895		2·96455	0·45981		2·96441	0·46068	3
4		3 95326	0·60964		3 95309	0·61079		3·95291	0·61194		3·95273	0·61309		3·95255	0·61424	4
5		4·94158	0·76205		4·94136	0·76349		4·94114	0·76492		4·94091	0·76636		4·94069	0·76780	5
6		5·92990	0·91446		5·92963	0·91619		5·92937	0·91791		5·92910	0·91963		5·92883	0·92136	6
7		6·91822	1·06687		6·91790	1·06888		6 91759	1·07090		6·91728	1·07291		6·91697	1·07492	7
8		7·90653	1·21928		7·90618	1·22158		7·90582	1·22388		7·90547	1·22618		7·90511	1·22848	8
9		8·89485	1·37169		8·89445	1·37428		8·89405	1·37687		8 89365	1·37945		8·89325	1·38204	9
10	14	9·88317	1·52411	13	9·88272	1·52698	12	9·88228	1·52985	11	9·88183	1·53273	10	9·88139	1·53560	10
1	56	0·98786	0·15528	57	0·98782	0·15557	58	0·98777	0·15586	59	0·98773	0·15614	60	0·98768	0·15643	1
2		1·97573	0·31057		1·97564	0·31114		1·97555	0·31172		1·97546	0·31229		1·97537	0·31286	2
3		2·96360	0·46585		2·96347	0·46671		2·96333	0·46758		2.96320	0·46844		2·96306	0·46930	3
4		3·95147	0·62114		3·95129	0·62229		3·95111	0·62344		3·95093	0·62458		3·95075	0·62573	4
5		4·93934	0·77642		4·93912	0·77786		4·93889	0·77930		4·93866	0·78073		4·93844	0·78217	5
6		5·92721	0·93171		5·92694	0·93343		5·92667	0·93516		5·92640	0·93688		5·92612	0·93860	6
7		6·91508	1·08699		6·91477	1·08900		6·91445	1·09102		6·91413	1·09303		6·91381	1·09504	7
8		7·90295	1·24228		7·90259	1·24458		7·90223	1·24688		7·90187	1·24917		7·90150	1·25147	8
9		8·89082	1·39756		8·89042	1·40015		8·89001	1·40274		8·88960	1·40532		8·88919	1·40791	9
10	04	9·87869	1·55285	03	9·87824	1·55572	02	9·87779	1·55860	01	9·87733	1·56147	00	9·87688	1·56434	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

9

81 DEG.

D.	M.	Lat.	Dep.	M.	Lat	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat	Dep.	D.
1	01	0·98764	0·15672	02	0·98759	0·15700	03	0·98755	0·15729	04	0·98750	0·15758	05	0·98746	0·15787	1
2		1·97528	0·31344		1·97519	0·31401		1·97510	0·31459		1·97501	0·31516		1·97492	0·31574	2
3		2·96292	0·47016		2·96279	0·47102		2·96265	0·47188		2·96251	0·47275		2·96238	0·47361	3
4		3·95057	0·62688		3·95038	0·62803		3·95020	0·62918		3·95002	0·63033		3·94984	0·63148	4
5		4·93821	0·78360		4·93798	0·78504		4·93775	0·78648		4·93752	0·78791		4·93730	0·78935	5
6		5·92585	0·94033		5·92558	0·94205		5·92530	0·94377		5·92503	0·94550		5·92476	0·94722	6
7		6·91349	1·09705		6·91317	1·09906		6·91285	1·10107		6·91253	1·10308		6·91222	1·10509	7
8		7·90114	1·25377		7·90077	1·25607		7·90041	1·25837		7·90004	1·26066		7·89968	1·26296	8
9		8·88878	1·41049		8·88837	1·41308		8·88796	1·41566		8·88755	1·41825		8·88714	1·42083	9
10	59	9·87642	1·56721	58	9·87597	1·57009	57	9·87551	1·57296	56	9·87505	1·57583	55	9·87460	1·57870	10
1	11	0·98718	0·15959	12	0·98713	0·15988	13	0·98709	0·16016	14	0·98704	0·16045	15	0·98699	0·16074	1
2		1·97436	0·31918		1·97427	0·31976		1·97418	0·32033		1·97408	0·32091		1·97399	0·32148	2
3		2·96154	0·47878		2·96140	0·47964		2·96127	0·48050		2·96112	0·48136		2·96098	0·48222	3
4		3·94873	0·63837		3·94854	0·63952		3·94836	0·64067		3·94817	0·64182		3·94798	0·64297	4
5		4·93591	0·79797		4·93568	0·79940		4·93545	0·80084		4·93521	0·80227		4·93498	0·80371	5
6		5·92309	0·95756		5·92281	0·95928		5·92254	0·96100		5·92225	0·96273		5·92197	0·96445	6
7		6·91027	1·11715		6·90995	1·11916		6·90963	1·12117		6·90930	1·12318		6·90897	1·12519	7
8		7·89746	1·27675		7·89709	1·27904		7·89672	1·28134		7·89634	1·28364		7·89597	1·28594	8
9		8·88464	1·43634		8·88422	1·43893		8·88381	1·44151		8·88338	1·44409		8·88296	1·44668	9
10	49	9·87182	1·59594	48	9·87136	1·59881	47	9·87090	1·60168	46	9·87043	1·60455	45	9·86996	1·60742	10
1	21	0·98671	0·16246	22	0·98666	0·16275	23	0·98662	0·16303	24	0·98657	0·16332	25	0·98652	0·16361	1
2		1·97342	0·32493		1·97333	0·32550		1·97324	0·32607		1·97314	0·32665		1·97304	0·32722	2
3		2·96014	0·48739		2·96000	0·48825		2·95986	0·48911		2·95971	0·48997		2·95957	0·49083	3
4		3·94685	0·64986		3·94666	0·65100		3·94648	0·65215		3·94628	0·65330		3·94609	0·65445	4
5		4·93357	0·81232		4·93333	0·81376		4·93310	0·81519		4·93286	0·81663		4·93262	0·81806	5
6		5·92028	0·97479		5·92000	0·97651		5·91972	0·97823		5·91943	0·97995		5·91914	0·98167	6
7		6·90700	1·13725		6·90666	1·13926		6·90634	1·14127		6·90600	1·14328		6·90567	1·14529	7
8		7·89371	1·29972		7·89333	1·30201		7·89296	1·30431		7·89257	1·30660		7·89219	1·30890	8
9		8·88042	1·46218		8·88000	1·46476		8·87958	1·46735		8·87914	1·46993		8·87872	1·47251	9
10	39	9·86714	1·62465	38	9·86667	1·62752	37	9·86620	1·63039	36	9·86572	1·63326	35	9·86524	1·63613	10
1	31	0·98623	0·16533	32	0·98618	0·16562	33	0·98614	0·16590	34	0·98609	0·16619	35	0·98604	0·16648	1
2		1·97247	0·33066		1·97237	0·33124		1·97228	0·33181		1·97218	0·33239		1·97208	0·33296	2
3		2·95871	0·49600		2·95856	0·49686		2·95842	0·49772		2·95827	0·49858		2·95813	0·49944	3
4		3·94495	0·66133		3·94475	0·66248		3·94456	0·66363		3·94437	0·66478		3·94417	0·66592	4
5		4·93118	0·82667		4·93094	0·82810		4·93070	0·82954		4·93046	0·83097		4·93022	0·83241	5
6		5·91742	0·99200		5·91713	0·99372		5·91684	0·99544		5·91655	0·99717		5·91626	0·99889	6
7		6·90366	1·15734		6·90332	1·15934		6·90298	1·16135		6·90265	1·16336		6·90231	1·16537	7
8		7·88990	1·32267		7·88951	1·32497		7·88912	1·32726		7·88874	1·32956		7·88835	1·33185	8
9		8·87613	1·48801		8·87570	1·49059		8·87527	1·49317		8·87483	1·49575		8·87440	1·49833	9
10	29	9·86237	1·65334	28	9·86189	1·65621	27	9·86141	1·65908	26	9·86093	1·66195	25	9·86044	1·66482	10
1	41	0·98575	0·16820	42	0·98570	0·16848	43	0·98565	0·16877	44	0·98560	0·16906	45	0·98555	0·16935	1
2		1·97150	0·33640		1·97140	0·33697		1·97130	0·33755		1·97121	0·33812		1·97111	0·33870	2
3		2·95725	0·50460		2·95711	0·50546		2·95696	0·50632		2·95681	0·50718		2·95666	0·50805	3
4		3·94300	0·67281		3·94281	0·67395		3·94261	0·67510		3·94242	0·67625		3·94222	0·67740	4
5		4·92876	0·84101		4·92851	0·84244		4·92827	0·84388		4·92802	0·84531		4·92778	0·84675	5
6		5·91451	1·00921		5·91422	1·01093		5·91392	1·01265		5·91363	1·01437		5·91333	1·01610	6
7		6·90026	1·17741		6·89992	1·17942		6·89958	1·18143		6·89923	1·18343		6·89889	1·18545	7
8		7·88601	1·34562		7·88562	1·34791		7·88523	1·35020		7·88484	1·35250		7·88444	1·35480	8
9		8·87177	1·51382		8·87133	1·51640		8·87088	1·51898		8·87044	1·52156		8·87000	1·52415	9
10	19	9·85752	1·68202	18	9·85703	1·68489	17	9·85654	1·68776	16	9·85605	1·69062	15	9·85556	1·69350	10
1	51	0·98525	0·17106	52	0·98520	0·17135	53	0·98515	0·17164	54	0·98510	0·17192	55	0·98505	0·17221	1
2		1·97051	0·34213		1·97041	0·34271		1·97031	0·34328		1·97021	0·34385		1·97011	0·34443	2
3		2·95577	0·51320		2·95562	0·51406		2·95547	0·51492		2·95532	0·51578		2·95517	0·51664	3
4		3·94103	0·68427		3·94083	0·68542		3·94063	0·68657		3·94043	0·68771		3·94023	0·68886	4
5		4·92629	0·85534		4·92604	0·85678		4·92579	0·85821		4·92554	0·85964		4·92529	0·86107	5
6		5·91155	1·02641		5·91125	1·02813		5·91095	1·02985		5·91065	1·03157		5·91035	1·03329	6
7		6·89681	1·19748		6·89646	1·19949		6·89611	1·20149		6·89576	1·20350		6·89541	1·20550	7
8		7·88207	1·36855		7·88167	1·37084		7·88127	1·37314		7·88087	1·37543		7·88047	1·37772	8
9		8·86733	1·53962		8·86688	1·54220		8·86643	1·54478		8·86598	1·54736		8·86553	1·54994	9
10	09	9·85259	1·71069	08	9·85209	1·71356	07	9·85159	1·71642	06	9·85109	1·71929	05	9·85059	1·72215	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·98741	0·15815	07	0·98736	0·15844	08	0·98732	0·15873	09	0·98727	0·15902	10	0·98722	0·15930	1
2		1·97482	0·31631		1·97473	0·31689		1·97464	0·31746		1·97455	0·31804		1·97445	0·31861	2
3		2·96224	0·47447		2·96210	0·47533		2·96196	0·47619		2·96182	0·47706		2·96168	0·47792	3
4		3·94965	0·63263		3·94947	0·63378		3·94928	0·63493		3·94910	0·63608		3·94891	0·63722	4
5		4·93706	0·79079		4·93683	0·79222		4·93660	0·79366		4·93637	0·79510		4·93614	0·79653	5
6		5·92448	0·94894		5·92420	0·95067		5·92392	0·95239		5·92365	0·95412		5·92337	0·95584	6
7		6·91189	1·10710		6·91157	1·10911		6·91125	1·11112		6·91092	1·11314		6·91060	1·11514	7
8		7·89931	1·26526		7·89894	1·26756		7·89857	1·26986		7·89820	1·27216		7·89783	1·27445	8
9		8·88672	1·42342		8·88631	1·42600		8·88589	1·42859		8·88547	1·43118		8·88506	1·43376	9
10	54	9·87413	1·58158	53	9·87367	1·58445	52	9·87321	1·58732	51	9·87275	1·59020	50	9·87229	1·59307	10
1	16	0·98695	0·16103	17	0·98690	0·16131	18	0·98685	0·16160	19	0·98680	0·16189	20	0·98676	0·16217	1
2		1·97390	0·32206		1·97380	0·32263		1·97371	0·32320		1·97361	0·32378		1·97352	0·32435	2
3		2·96085	0·48309		2·96070	0·48395		2·96056	0·48481		2·96042	0·48567		2·96028	0·48653	3
4		3·94780	0·64412		3·94761	0·64526		3·94742	0·64641		3·94723	0·64756		3·94704	0·64871	4
5		4·93475	0·80515		4·93451	0·80658		4·93427	0·80801		4·93404	0·80945		4·93380	0·81089	5
6		5·92170	0·96618		5·92141	0·96790		5·92113	0·96962		5·92085	0·97134		5·92056	0·97306	6
7		6·90865	1·12721		6·90831	1·12921		6·90798	1·13122		6·90766	1·13323		6·90733	1·13524	7
8		7·89560	1·28824		7·89522	1·29053		7·89484	1·29283		7·89446	1·29512		7·89409	1·29742	8
9		8·88255	1·44927		8·88212	1·45185		8·88170	1·45443		8·88127	1·45701		8·88085	1·45960	9
10	44	9·86950	1·61030	43	9·86902	1·61316	42	9·86855	1·61603	41	9·86808	1·61891	40	9·86761	1·62178	10
1	26	0·98647	0·16390	27	0·98642	0·16418	28	0·98638	0·16447	29	0·98633	0·16476	30	0·98628	0·16504	1
2		1·97295	0·32780		1·97285	0·32837		1·97276	0·32894		1·97266	0·32952		1·97257	0·33009	2
3		2·95943	0·49170		2·95928	0·49256		2·95914	0·49342		2·95900	0·49428		2·95885	0·49514	3
4		3·94590	0·65560		3·94571	0·65674		3·94552	0·65789		3·94533	0·65904		3·94514	0·66019	4
5		4·93238	0·81950		4·93214	0·82093		4·93190	0·82236		4·93166	0·82380		4·93142	0·82523	5
6		5·91886	0·98340		5·91857	0·98512		5·91828	0·98684		5·91800	0·98856		5·91771	0·99028	6
7		6·90533	1·14730		6·90500	1·14930		6·90467	1·15131		6·90433	1·15332		6·90399	1·15533	7
8		7·89181	1·31120		7·89143	1·31349		7·89105	1·31579		7·89066	1·31808		7·89028	1·32038	8
9		8·87829	1·47510		8·87786	1·47768		8·87743	1·48026		8·87700	1·48284		8·87657	1·48542	9
10	34	9·86477	1·63900	33	9·86429	1·64186	32	9·86381	1·64473	31	9·86333	1·64760	30	9·86285	1·65047	10
1	36	0·98599	0·16676	37	0·98594	0·16705	38	0·98589	0·16734	39	0·98585	0·16762	40	0·98580	0·16791	1
2		1·97199	0·33353		1·97189	0·33411		1·97179	0·33468		1·97170	0·33525		1·97160	0·33583	2
3		2·95798	0·50030		2·95784	0·50116		2·95769	0·50202		2·95755	0·50288		2·95740	0·50374	3
4		3·94398	0·66707		3·94379	0·66822		3·94359	0·66936		3·94340	0·67051		3·94320	0·67166	4
5		4·92998	0·83384		4·92973	0·83527		4·92949	0·83671		4·92925	0·83814		4·92900	0·83958	5
6		5·91597	1·00061		5·91568	1·00233		5·91539	1·00405		5·91510	1·00577		5·91480	1·00749	6
7		6.90197	1·16738		6·90163	1·16938		6·90129	1·17139		6·90095	1·17340		6·90060	1·17541	7
8		7·88796	1·33414		7·88758	1·33644		7·88719	1·33873		7·88680	1·34103		7·88641	1·34332	8
9		8·87396	1·50091		8·87352	1·50350		8·87308	1·50608		8·87265	1·50866		8·87221	1·51124	9
10	24	9·85996	1·66768	23	9·85947	1·67055	22	9·85898	1·67342	21	9·85850	1·67629	20	9·85801	1·67916	10
1	46	0·98550	0·16963	47	0·98545	0·16992	48	0·98540	0·17021	49	0·98535	0·17049	50	0·98530	0·17078	1
2		1·97101	0·33927		1·97091	0·33984		1·97081	0·34042		1·97071	0·34099		1·97061	0·34156	2
3		2·95652	0·50890		2·95637	0·50976		2·95622	0·51063		2·95607	0·51148		2·95592	0·51234	3
4		3·94202	0·67854		3·94182	0·67969		3·94163	0·68084		3·94143	0·68198		3·94123	0·68313	4
5		4·92753	0·84818		4·92728	0·84961		4·92704	0·85105		4·92679	0·85248		4·92654	0·85391	5
6		5·91304	1·01781		5·91274	1·01953		5·91244	1·02126		5·91214	1·02297		5·91185	1·02469	6
7		6·89854	1·18745		6·89820	1·18945		6·89785	1·19147		6·89750	1·19347		6·89716	1·19547	7
8		7·88405	1·35708		7·88365	1·35938		7·88326	1·36168		7·88286	1·36396		7·88246	1·36626	8
9		8·86956	1·52672		8·86911	1·52930		8·86867	1·53189		8·86822	1·53446		8·86777	1·53704	9
10	14	9·85506	1·69636	13	9·85457	1·69922	12	9·85408	1·70210	11	9·85358	1·70496	10	9·85308	1·70782	10
1	56	0·98500	0·17250	57	0·98495	0·17278	58	0·98490	0·17307	59	0·98485	0·17336	60	0·98480	0·17364	1
2		1·97001	0·34500		1·96991	0·34557		1·96981	0·34615		1·96971	0·34672		1·96961	0·34729	2
3		2·95502	0·51750		2·95487	0·51836		2·95472	0·51922		2·95457	0·52008		2·95442	0·52094	3
4		3·94003	0·69000		3·93983	0·69115		3·93963	0·69230		3·93943	0·69344		3·93923	0·69459	4
5		4·92504	0·86251		4·92479	0·86394		4·92454	0·86537		4·92429	0·86680		4·92403	0·86824	5
6		5·91005	1·03501		5·90975	1·03673		5·90945	1·03845		5·90914	1·04017		5·90884	1·04188	6
7		6·89506	1·20751		6·89471	1·20952		6·89436	1·21152		6·89400	1·21353		6·89365	1·21553	7
8		7·88007	1·38001		7·87967	1·38230		7·87926	1·38460		7·87886	1·38689		7·87846	1·38918	8
9		8·86508	1·55251		8·86463	1·55509		8·86417	1·55767		8·86372	1·56025		8·86327	1·56283	9
10	04	9·85009	1·72502	03	9·84959	1·72788	02	9·84908	1·73075	01	9·84858	1·73361	00	9·84807	1·73648	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

1

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80 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·98475	0·17393	02	0·98470	0·17422	03	0·98465	0·17450	04	0·98460	0·17479	05	0·98455	0·17508	1
2		1·96951	0·34786		1·96941	0·34844		1·96931	0·34901		1·96921	0·34958		1·96910	0·35016	2
3		2·95427	0·52180		2·95411	0·52266		2·95396	0·52352		2·95381	0.52438		2·95366	0·52524	3
4		3·93902	0·69573		3·93882	0·69688		3·93862	0·69803		3·93842	0·69917		3·93821	0·70032	4
5		4·92378	0·86967		4·92353	0·87110		4·92327	0·87253		4·92302	0·87396		4·92277	0·87540	5
6		5·90854	1·04360		5·90823	1·04532		5·90793	1·04704		5·90763	1·04876		5·90732	1·05048	6
7		6·89330	1·21754		6·89294	1·21954		6·89259	1·22155		6·89223	1·22355		6·89187	1·22556	7
8		7·87805	1·39147		7·87765	1·39376		7·87724	1·39606		7·87684	1·39835		7·87643	1·40064	8
9		8·86281	1·56541		8·86235	1·56798		8·86190	1·57056		8·86144	1·57314		8·86098	1·57572	9
10	59	9·84757	1·73934	58	9·84706	1·74221	57	9·84655	1·74507	56	9·84605	1·74794	55	9·84554	1·75080	10
1	11	0·98424	0·17679	12	0·98419	0·17708	13	0·98414	0·17737	14	0·98409	0·17765	15	0 98404	0·17794	1
2		1·96849	0·35359		1·96839	0·35416		1·96828	0·35474		1·96818	0·35531		1·96808	0·35588	2
3		2·95274	0·53039		2·95258	0·53125		2·95243	0·53211		2·95227	0·53297		2·95212	0·53383	3
4		3·93698	0·70719		3.93678	0·70833		3·93657	0·70948		3·93636	0·71062		3 93616	0·71177	4
5		4·92123	0·88399		4·92097	0·88542		4·92072	0·88685		4·92046	0·88828		4·92020	0·88971	5
6		5·90548	1·06079		5·90517	1·06250		5·90486	1·06422		5·90455	1·06594		5·90424	1·06766	6
7		6·88972	1·23758		6·88936	1·23959		6·88900	1·24159		6·88864	1·24360		6·88828	1·24560	7
8		7·87397	1·41438		7·87356	1·41667		7·87315	1·41896		7·87273	1·42125		7·87232	1·42354	8
9		8·85822	1·59118		8·85776	1·59376		8·85729	1·59633		8·85683	1·59891		8·85636	1·60149	9
10	49	9·84247	1·76798	48	9·84195	1·77084	47	9·84144	1·77371	46	9·84092	1·77657	45	9·84040	1·77943	10
1	21	0·98372	0·17966	22	0·98367	0·17994	23	0·98362	0·18023	24	0·98357	0·18051	25	0·98351	0·18080	1
2		1·96745	0·35932		1·96735	0·35989		1·96724	0·36046		1·96714	0·36103		1·96703	0·36161	2
3		2·95118	0·53898		2·95102	0·53984		2·95087	0·54069		2·95071	0·54155		2·95055	0·54241	3
4		3·93491	0·71864		3·93470	0·71978		3·93449	0·72093		3·93428	0·72207		3·93407	0·72322	4
5		4·91864	0·89830		4·91838	0·89973		4·91811	0·90116		4·91785	0·90259		4·91759	0·90402	5
6		5·90237	1·07796		5·90205	1·07968		5 90174	1·08139		5·90142	1·08311		5·90111	1·08483	6
7		6·88610	1·25762		6·88573	1·25962		6·88536	1·26163		6·88500	1·26363		6·88463	1·26563	7
8		7·86982	1·43728		7·86941	1·43957		7·86899	1·44186		7·86857	1·44415		7·86815	1·44644	8
9		8·85355	1·61694		8·85308	1·61952		8·85261	1·62209		8·85214	1·62467		8·85167	1·62724	9
10	39	9·83728	1·79660	38	9·83676	1·79947	37	9·83624	1·80233	36	9·83571	1·80519	35	9·83519	1·80805	10
1	31	0·98320	0·18252	32	0·98314	0·18280	33	0·98309	0·18309	34	0·98304	0·18338	35	0·98298	0·18366	1
2		1·96640	0·36504		1·96629	0·36561		1·96619	0·36618		1·96608	0·36676		1·96597	0·36733	2
3		2·94960	0·54756		2·94944	0·54842		2·94928	0·54928		2·94912	0·55014		2·94896	0·55099	3
4		3·93280	0·73008		3·93259	0·73123		3·93238	0·73237		3·93216	0·73352		3·93195	0·73466	4
5		4·91601	0·91260		4·91574	0 91403		4·91547	0·91546		4·91521	0·91690		4·91494	0·91832	5
6		5·89921	1·09512		5·89889	1·09684		5·89857	1·09856		5·89825	1·10028		5·89793	1·10199	6
7		6·88241	1·27765		6·88204	1·27965		6·88166	1·28165		6·88129	1·28366		6·88092	1·28565	7
8		7·86561	1·46017		7·86518	1·46246		7·86476	1·46474		7·86433	1·46704		7·86391	1·46932	8
9		8·84881	1·64269		8·84833	1·64526		8·84785	1·64784		8·84737	1·65042		8·84689	1·65298	9
10	29	9·83202	1·82521	28	9·83148	1·82807	27	9·83095	1·83093	26	9·83042	1·83380	25	9·82988	1·83665	10
1	41	0·98266	0·18538	42	0·98261	0·18566	43	0·98255	0·18595	44	0·98250	0·18623	45	0·98245	0·18652	1
2		1·96533	0·37076		1·96522	0·37133		1·96511	0·37190		1·96500	0·37247		1·96490	0·37304	2
3		2·94800	0·55614		2·94783	0·55699		2·94767	0·55785		2·94751	0 55871		2·94735	0·55957	3
4		3·93066	0·74152		3·93045	0·74266		3·93023	0·74380		3·93001	0·74495		3·92980	0·74609	4
5		4·91333	0·92690		4·91306	0·92833		4·91279	0·92976		4·91252	0·93119		4·91225	0·93262	5
6		5·89600	1·11228		5·89567	1·11399		5·89535	1·11571		5·89502	1·11742		5·89470	1·11914	6
7		6·87866	1·29766		6 87828	1·29966		6·87791	1·30166		6·87753	1·30366		6·87715	1·30566	7
8		7·86133	1·48304		7·86090	1·48533		7·86046	1·48761		7·86003	1·48990		7·85960	1·49219	8
9		8·84400	1·66842		8·84351	1·67099		8·84302	1·67357		8·84254	1·67614		8·84205	1·67871	9
10	19	9·82666	1·85380	18	9·82612	1·85666	17	9·82558	1·85952	16	9·82504	1·86238	15	9·82450	1·86524	10
1	51	0·98212	0·18823	52	0·98206	0·18852	53	0·98201	0·18881	54	0·98195	0·18909	55	0·98190	0·18938	1
2		1·96424	0·37647		1·96413	0·37704		1·96402	0·37762		1·96391	0·37819		1·96380	0·37876	2
3		2·94637	0·56471		2·94620	0·56557		2·94604	0·56643		2·94587	0·56728		2·94571	0·56814	3
4		3·92849	0·75295		3·92827	0 75409		3·92805	0·75524		3·92783	0·75638		3·92761	0·75752	4
5		4·91061	0·94119		4·91034	0·94262		4·91006	0·94405		4·90979	0·94547		4·90951	0·94690	5
6		5·89274	1·12943		5·89241	1·13114		5·89208	1·13286		5·89175	1·13457		5·89142	1·13628	6
7		6·87486	1·31766		6·87448	1·31966		6·87409	1·32167		6·87371	1·32366		6·87332	1·32566	7
8		7·85698	1·50590		7·85654	1·50819		7·85610	1·51048		7·85566	1·51276		7·85522	1·51504	8
9		8·83911	1·69414		8·83861	1·69671		8·83812	1·69929		8·83762	1·70185		8·83713	1.70442	9
10	09	9·82123	1·88238	08	9·82068	1·88524	07	9·82013	1·88810	06	9·81958	1·89095	05	9·81903	1·89381	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M	Dep.	Lat.	D.

DEG. 79.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·98450	0·17536	07	0·98445	0·17565	08	0 98440	0·17594	09	0·98435	0·17622	10	0·98429	0·17651	1
2		1·96900	0·35073		1·96890	0·35130		1·96880	0·35188		1·96870	0·35245		1·96859	0·35302	2
3		2·95350	0·52610		2·95335	0·52695		2·95320	0·52782		2·95305	0·52867		2·95289	0·52953	3
4		3·93801	0·70146		3·93780	0·70261		3·93760	0·70376		3·93740	0·70490		3·93719	0·70604	4
5		4·92251	0·87683		4·92226	0·87826		4·92200	0·87970		4 92175	0·88112		4.92149	0·88256	5
6		5·90701	1·05220		5·90671	1·05391		5·90640	1·05564		5·90610	1·05735		5·90579	1·05907	6
7		6·89152	1·22756		6·89116	1·22957		6·89080	1·23158		6·89045	1·23358		6·89008	1·23558	7
8		7·87602	1·40293		7·87561	1·40522		7·87520	1·40752		7·87480	1·40980		7·87438	1·41209	8
9		8·86052	1·57830		8·86006	1·58087		8·85960	1·58346		8·85915	1·58603		8·85868	1·58860	9
10	54	9·84503	1·75366	53	9·84452	1·75653	52	9·84401	1·75940	51	9·84350	1·76225	50	9·84298	1·76512	10
1	16	0·98398	0·17823	17	0·98393	0·17851	18	0·98388	0·17880	19	0·98383	0·17908	20	0·98378	0·17937	1
2		1·96797	0·35646		1·96787	0·35703		1·96777	0·35760		1·96766	0·35817		1·96756	0·35874	2
3		2·95196	0·53469		2·95181	0·53554		2·95165	0·53640		2·95149	0·53726		2 95134	0·53812	3
4		3·93595	0·71292		3·93574	0·71406		3·93554	0·71520		3·93533	0·71635		3·93512	0·71749	4
5		4·91994	0·89115		4·91968	0·89258		4·91942	0·89401		4·91916	0·89544		4·91890	0·89687	5
6		5·90393	1·06938		5·90362	1·07109		5·90331	1·07281		5·90299	1·07453		5·90268	1·07624	6
7		6·88792	1·24761		6·88755	1·24961		6·88719	1·25161		6·88683	1·25361		6·88646	1·25562	7
8		7·87191	1 42584		7·87149	1·42812		7·87108	1·43041		7·87066	1·43270		7·87024	1·43499	8
9		8·85590	1·60407		8·85543	1·60664		8·85496	1·60921		8·85449	1·61179		8·85402	1·61437	9
10	44	9·83989	1·78230	43	9·83937	1·78516	42	9·83885	1·78802	41	9·83833	1·79088	40	9·83780	1·79374	10
1	26	0·98346	0·18109	27	0·98341	0·18137	28	0·98336	0·18166	29	0·98330	0·18195	30	0·98325	0·18223	1
2		1·96693	0·36218		1·96682	0·36275		1·96672	0·36332		1·96661	0·36390		1·96650	0·36447	2
3		2·95039	0·54327		2·95024	0·54413		2·95008	0·54499		2·94992	0·54585		2·94976	0·54670	3
4		3·93386	0·72436		3·93365	0·72550		3·93344	0 72665		3·93323	0·72780		3·93301	0·72894	4
5		4·91733	0·90545		4·91706	0·90688		4·91680	0·90831		4·91654	0·90975		4·91627	0·91117	5
6		5·90079	1·08654		5·90048	1·08826		5·90016	1·08998		5·89984	1·09170		5·89952	1·09341	6
7		6·88426	1·26763		6·88389	1·26964		6·88352	1·27164		6·88315	1·27365		6·88278	1·27564	7
8		7·86773	1·44873		7·86730	1·45101		7·86688	1·45330		7·86646	1·45560		7·86603	1·45788	8
9		8·85119	1·62982		8·85072	1·63239		8·85024	1·63497		8·84977	1·63755		8·84929	1·64011	9
10	34	9·83466	1·81091	33	9·83413	1·81377	32	9·83360	1·81663	31	9·83308	1·81950	30	9·83255	1·82235	10
1	36	0·98293	0·18395	37	0·98288	0·18423	38	0·98282	0·18452	39	0·98277	0·18480	40	0·98272	0·18509	1
2		1·96587	0·36790		1·96576	0·36847		1·96565	0·36904		1·96554	0·36961		1·96544	0·37018	2
3		2·94880	0·55185		2·94864	0·55271		2·94848	0·55356		2·94832	0·55442		2·94816	0·55528	3
4		3·93174	0·73580		3·93152	0·73694		3·93131	0·73809		3·93109	0·73923		3·93088	0·74037	4
5		4·91467	0·91975		4·91440	0·92118		4·91414	0·92261		4·91387	0·92404		4·91360	0·92547	5
6		5·89761	1·10370		5·89729	1·10542		5·89696	1·10713		5·89664	1·10885		5·89632	1·11056	6
7		6·88054	1·28765		6·88017	1·28966		6·87979	1·29166		6·87942	1·29366		6·87904	1·29566	7
8		7·86348	1·47161		7·86305	1·47389		7·86262	1·47618		7·86219	1·47847		7·86176	1·48075	8
9		8·84641	1·65556		8·84593	1·65813		8·84545	1·66070		8·84496	1·66328		8·84448	1·66585	9
10	24	9·82935	1·83951	23	9·82881	1·84237	22	9·82828	1·84523	21	9·82774	1·84809	20	9·82720	1·85095	10
1	46	0·98239	0·18681	47	0·98234	0·18709	48	0·98228	0·18738	49	0·98223	0·18766	50	0·98217	0·18795	1
2		1·96479	0·37362		1·96468	0·37419		1·96457	0·37476		1·96446	0·37533		1·96435	0·37590	2
3		2·94718	0·56043		2·94702	0·56128		2·94686	0 56214		2·94669	0·56300		2·94653	0·56385	3
4		3·92958	0·74724		3·92936	0·74838		3·92914	0·74952		3·92893	0·75066		3·92871	0·75181	4
5		4·91198	0·93405		4·91170	0·93547		4·91143	0·93690		4·91116	0·93833		4·91089	0·93976	5
6		5·89437	1·12086		5·89405	1·12257		5·89372	1·12428		5·89339	1·12600		5·89306	1·12771	6
7		6·87677	1·30767		6·87639	1·30966		6·87601	1·31166		6·87562	1·31366		6·87524	1·31566	7
8		7·85916	1·49448		7·85873	1·49676		7·85829	1·49905		7·85786	1·50133		7·85742	1·50362	8
9		8·84156	1·68129		8·84107	1·68386		8·84058	1·68643		8·84009	1·68900		8·83960	1·69157	9
10	14	9·82396	1·86810	13	9·82341	1·87095	12	9·82287	1·87381	11	9·82232	1·87667	10	9·82178	1·87952	10 3
1	56	0·98184	0·18966	57	0·98179	0·18995	58	0·98173	0·19023	59	0·98168	0·19052	60	0·98162	0·19081	1
2		1·96369	0·37933		1·96358	0·37990		1·96347	0·38047		1·96336	0·38104		1·96325+	0·38162	2
3		2·94554	0·56900		2·94537	0·56985		2·94521	0·57071		2·94504	0·57157		2·94488	0·57243	3
4		3·92739	0·75866		3·92717	0·75980		3·92695	0·76095		3·92673	0·76209		3·92650	0·76323	4
5		4·90924	0·94833		4·90896	0·94976		4·90869	0·95119		4·90841	0·95261		4·90813	0·95404	5
6		5·89109	1·13800		5·89075	1·13971		5·89042	1·14142		5·89009	1 .4314		5·88976	1·14485	6 7
7		6·87293	1·32766		6·87255	1·32966		6·87216	1·33166		6·87177	1·33366		6·87139	1·33566	7
8		7·85478	1·51733		7·85434	1·51961		7·85390	1·52190		7·85346	1·52418		7·85301	1·52647	8
9		8·83663	1·70700		8·83613	1 70957		8·83564	1·71214		8·83514	1·71471		8·83464	1·71728	9
10	04	9·81848	1·89666	03	9·81793	1·89952	02	9·81738	1·90238	01	9·81682	1·90523	00	9·81627	1·90809	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

79 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D
1	01	0·98157	0·19109	02	0·98151	0·19138	03	0·98146	0·19166	04	0·98140	0·19195	05	0·98134	0·19223	1
2		1·96314	0·38218		1·96303	0·38276		1·96292	0·38333		1·96280	0·38390		1·96269	0·38447	2
3		2·94471	0·57328		2·94454	0·57414		2·94438	0·57499		2·94421	0·57585		2·94404	0·57670	3
4		3·92628	0·76437		3·92606	0·76552		3·92584	0·76666		3·92561	0·76780		3·92539	0·76894	4
5		4·90785	0·95547		4·90758	0·95690		4·90730	0·95832		4·90702	0·95975		4·90674	0·96118	5
6		5·88942	1·14656		5·88909	1·14828		5·88876	1·14999		5·88842	1·15170		5·88809	1·15341	6
7		6·87100	1·33766		6·87061	1·33966		6·87022	1·34165		6·86983	1·34365		6·86944	1·34565	7
8		7·85257	1·52875		7·85212	1·53104		7·85168	1·53332		7·85123	1·53560		7·85078	1·53789	8
9		8·83414	1·71985		8·83364	1·72242		8·83314	1·72499		8·83264	1·72755		8·83213	1·73012	9
10	59	9·81571	1·91095	58	9·81516	1·91380	57	9·81460	1·91665	56	9·81404	1·91951	55	9·81348	1·92236	10
1	11	0·98101	0·19394	12	0·98095	0·19423	13	0·98089	0·19452	14	0·98084	0·19480	15	0·98078	0·19509	1
2		1·96202	0·38789		1·96191	0·38846		1·96179	0·38904		1·96168	0·38961		1·96157	0·39018	2
3		2 94303	0·58184		2·94286	0·58270		2·94269	0·58356		2·94252	0·58441		2·94235	0·58527	3
4		3·92404	0·77579		3·92382	0·77693		3·92359	0·77808		3·92336	0·77922		3·92314	0·78036	4
5		4·90505	0·96974		4·90477	0·97117		4·90449	0·97260		4·90421	0·97402		4·90392	0·97545	5
6		5·88606	1·16369		5·88573	1·16540		5·88539	1·16712		5·88505	1·16883		5·88471	1·17054	6
7		6·86708	1·35764		6·86668	1·35964		6·86629	1·36164		6·86589	1·36363		6·86549	1·36563	7
8		7·84809	1·55159		7·84764	1·55387		7·84718	1·55616		7·84673	1·55844		7·84628	1·56072	8
9		8·82910	1·74554		8·82859	1·74810		8·82808	1·75068		8·82757	1·75324		8·82706	1·75581	9
10	49	9·81011	1·93949	48	9·80955	1·94231	47	9·80898	1·94520	46	9·80842	1·94805	45	9·80785	1·95090	10
1	21	0·98044	0·19680	22	0·98038	0·19708	23	0·98032	0·19737	24	0·98027	0·19765	25	0·98021	0·19794	1
2		1·96088	0·39360		1·96077	0·39417		1·96065	0·39474		1·96054	0·39531		1·96042	0·39588	2
3		2·94132	0·59040		2·94115	0·59126		2·94098	0·59211		2 94081	0·59297		2·94064	0·59382	3
4		3·92177	0·78720		3·92154	0·78834		3·92131	0 78948		3·92108	0·79062		3·92085	0·79177	4
5		4·90221	0·98400		4·90193	0·98543		4·90164	0·98686		4·90135	0·98828		4·90106	0·98971	5
6		5·88265	1·18081		5·88231	1·18252		5·88197	1·18423		5·88162	1·18594		5·88128	1·18765	6
7		6·86310	1·37761		6·86270	1·37960		6·86230	1·38160		6·86189	1·38360		6·86149	1·38559	7
8		7·84354	1·57441		7·84308	1·57669		7·84262	1·57897		7·84216	1·58125		7·84170	1·58354	8
9		8·82398	1·77121		8·82347	1·77378		8·82295	1·77634		8·82244	1·77891		8·82192	1·78148	9
10	39	9·80443	1·96801	38	9·80386	1·97087	37	9·80328	1·97372	36	9·80271	1·97657	35	9·80213	1·97942	10
1	31	0·97986	0·19965	32	0·97980	0·19993	33	0·97975	0·20022	34	0·97969	0·20050	35	0·97963	0·20079	1
2		1·95973	0·39930		1·95961	0·39987		1·95950	0·40044		1·95938	0·40101		1·95926	0·40158	2
3		2·93960	0·59895		2·93942	0·59981		2·93925	0·60066		2·93907	0·60152		2·93890	0·60237	3
4		3·91946	0·79861		3·91923	0·79975		3·91900	0·80089		3·91876	0·80203		3·91853	0·80317	4
5		4·89933	0·99826		4·89904	0·99969		4·89875	1·00111		4·89846	1·00254		4·89816	1·00396	5
6		5·87920	1·19791		5·87885	1·19962		5·87850	1·20133		5·87815	1·20304		5·87780	1·20475	6
7		6·85906	1·39757		6·85866	1·39956		6·85825	1·40156		6·85784	1·40355		6·85743	1·40555	7
8		7·83893	1·59722		7·83846	1·59950		7·83800	1·60178		7·83753	1·60406		7·83706	1·60634	8
9		8·81880	1·79687		8·81827	1·79944		8·81775	1·80200		8·81722	1·80457		8·81670	1·80713	9
10	29	9·79866	1·99653	28	9·79808	1·99938	27	9·79750	2·00223	26	9·79692	2 00508	25	9·79633	2·00793	10
1	41	0·97928	0·20250	42	0·97922	0·20278	43	0·97916	0·20307	44	0·97910	0·20335	45	0·97904	0·20364	1
2		1·95856	0·40500		1·95844	0·40557		1·95832	0·40614		1·95820	0·40671		1·95809	0·40728	2
3		2·93784	0·60750		2·93766	0·60836		2·93749	0·60921		2·93731	0·61007		2·93713	0·61092	3
4		3·91712	0·81000		3·91689	0·81114		3·91665	0·81228		3·91641	0·81342		3·91618	0·81456	4
5		4·89640	1·01251		4·89611	1·01393		4·89581	1·01536		4·89552	1·01678		4·89522	1·01820	5
6		5·87569	1·21501		5·87533	1·21672		5·87498	1·21843		5·87462	1·22014		5·87427	1·22185	6
7		6·85497	1·41751		6·85455	1·41951		6·85414	1·42150		6·85373	1·42349		6·85331	1·42549	7
8		7·83425	1·62001		7·83378	1·62229		7·83331	1·62457		7·83283	1·62685		7·83236	1·62913	8
9		8·81353	1·82252		8·81300	1·82508		8·81247	1·82764		8·81194	1·83021		8·81140	1·83277	9
10	19	9·79281	2·02502	18	9·79222	2·02787	17	9·79163	2·03072	16	9 79104	2·03357	15	9·79045	2·03641	10
1	51	0·97868	0·20535	52	0·97862	0·20563	53	0·97856	0·20592	54	0·97850	0·20620	55	0·97844	0·20648	1
2		1·95737	0·41070		1·95725	0·41126		1·95713	0·41184		1·95701	0·41240		1·95689	0·41297	2
3		2·93606	0·61605		2·93588	0·61690		2·93570	0·61776		2·93552	0·61861		2·93534	0·61946	3
4		3·91475	0·82140		3·91451	0·82253		3·91427	0·82368		3·91403	0·82481		3·91379	0·82595	4
5		4·89344	1·02675		4·89314	1·02817		4·89284	1·02960		4·89254	1·03102		4·89224	1·03244	5
6		5·87213	1·23210		5·87177	1·23380		5·87141	1·23552		5·87105	1·23722		5·87069	1·23893	6
7		6·85082	1·43745		6·85040	1·43944		6·84998	1·44144		6·84956	1·44342		6·84914	1·44542	7
8		7·82950	1·64280		7·82903	1·64507		7·82855	1·64736		7·82807	1·64963		7·82759	1·65191	8
9		8·80819	1·84815		8·80765	1·85071		8·80712	1·85328		8·80658	1·85583		8·80604	1·85839	9
10	09	9·78688	2·05350	08	9·78628	2 05635	07	9·78569	2·05920	06	9·78509	2·06204	05	9·78449	2·06488	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

11 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·98129	0·19252	07	0·98123	0·19280	08	0·98118	0·19309	09	0·98112	0·19337	10	0·98106	0·19366	1
2		1·96258	0·38504		1·96247	0·38561		1·96236	0·38618		1·96224	0·38675		1·96213	0·38732	2
3		2·94387	0·57756		2·94370	0·57842		2·94354	0·57927		2·94337	0·58013		2·94320	0·58099	3
4		3·92517	0·77008		3·92494	0·77122		3·92472	0·77237		3·92449	0·77351		3·92427	0·77465	4
5		4·90646	0·96261		4·90618	0·96403		4·90590	0·96546		4·90562	0·96689		4·90534	0·96831	5
6		5·88775	1·15513		5·88741	1·15684		5·88708	1·15855		5·88674	1·16026		5·88640	1·16198	6
7		6·86904	1·34765		6·86865	1·34965		6·86826	1·35164		6·86787	1·35364		6·86747	1·35564	7
8		7·85034	1·54017		7·84989	1·54245		7·84944	1·54474		7·84899	1·54702		7·84854	1·54930	8
9		8·83163	1·73269		8·83112	1·73526		8·83062	1·73783		8·83011	1·74040		8·82961	1·74297	9
10	54	9·81292	1·92522	53	9·81236	1·92807	52	9·81180	1·93092	51	9·81124	1·93378	50	9·81068	1·93663	10
1	16	0·98072	0·19537	17	0·98067	0·19566	18	0·98061	0·19594	19	0·98055	0·19623	20	0·98050	0·19651	1
2		1·96145	0·39075		1·96134	0·39132		1·96122	0·39189		1·96111	0·39246		1·96100	0·39303	2
3		2·94218	0·58612		2·94201	0·58698		2·94184	0·58783		2·94167	0·58869		2·94150	0·58954	3
4		3·92291	0·78150		3·92268	0·78264		3·92245	0·78378		3·92223	0·78492		3·92200	0·78606	4
5		4·90364	0·97687		4·90335	0·97830		4·90307	0·97973		4·90278	0·98115		4·90250	0·98258	5
6		5·88437	1·17225		5·88402	1·17396		5·88368	1·17567		5·88334	1·17738		5·88300	1·17909	6
7		6·86509	1·36762		6·86470	1·36962		6·86430	1·37162		6·86390	1·37361		6·86350	1·37561	7
8		7·84582	1·56300		7·84537	1·56528		7·84491	1·56756		7·84446	1·56985		7·84400	1·57213	8
9		8·82655	1·75838		8·82604	1·76094		8·82553	1·76351		8·82501	1·76608		8·82450	1·76864	9
10	44	9·80728	1·95375	43	9·80671	1·95661	42	9·80614	1·95946	41	9·80557	1·96231	40	9·80500	1·96516	10
1	26	0·98015	0·19822	27	0·98009	0·19851	28	0·98004	0·19879	29	0·97998	0·19908	30	0·97992	0·19936	1
2		1·96031	0·39645		1·96019	0·39702		1·96008	0·39759		1·95996	0·39816		1·95984	0·39873	2
3		2·94046	0·59468		2·94029	0·59553		2·94012	0·59639		2·93994	0·59724		2·93977	0·59810	3
4		3·92062	0·79291		3·92039	0·79405		3·92016	0·79519		3·91993	0·79633		3·91969	0·79747	4
5		4·90078	0·99113		4·90049	0·99256		4·90020	0·99398		4·89991	0·99541		4·89962	0·99683	5
6		5·88093	1·18936		5·88058	1·19107		5·88024	1·19278		5·87989	1·19449		5·87954	1·19620	6
7		6·86109	1·38759		6·86068	1·38958		6·86028	1·39158		6·85987	1·39358		6·85947	1·39557	7
8		7·84124	1·58582		7·84078	1·58810		7·84032	1·59038		7·83986	1·59266		7·83939	1·59494	8
9		8·82140	1·78404		8·82088	1·78661		8·82036	1·78918		8·81984	1·79174		8·81932	1·79431	9
10	34	9·80156	1·98227	33	9·80098	1·98512	32	9·80040	1·98797	31	9·79982	1·99083	30	9·79924	1·99368	10
1	36	0·97957	0·20107	37	0·97951	0·20136	38	0·97945	0·20164	39	0·97939	0·20193	40	0·97934	0·20221	1
2		1·95915	0·40215		1·95903	0·40272		1·95891	0·40329		1·95879	0·40386		1·95868	0·40443	2
3		2·93872	0·60323		2·93855	0·60408		2·93837	0·60494		2·93819	0·60579		2·93802	0·60665	3
4		3·91830	0·80431		3·91806	0·80545		3·91783	0·80659		3·91759	0·80773		3·91736	0·80887	4
5		4·89787	1·00538		4·89758	1·00681		4·89729	1·00823		4·89699	1·00966		4·89670	1·01108	5
6		5·87745	1·20646		5·87710	1·20817		5·87674	1·20988		5·87639	1·21159		5·87604	1·21330	6
7		6·85702	1·40754		6·85661	1·40954		6·85620	1·41153		6·85579	1·41352		6·85538	1·41552	7
8		7·83660	1·60862		7·83613	1·61090		7·83566	1·61318		7·83519	1·61546		7·83472	1·61774	8
9		8·81617	1·80970		8·81565	1·81226		8·81512	1·81483		8·81459	1·81739		8·81406	1·81995	9
10	24	9·79575	2·01078	23	9·79516	2·01363	22	9·79458	2·01647	21	9·79399	2·01932	20	9·79340	2·02217	10
1	46	0·97898	0·20392	47	0·97892	0·20421	48	0·97886	0·20449	49	0·97880	0·20478	50	0·97874	0·20506	1
2		1·95797	0·40785		1·95785	0·40842		1·95773	0·40899		1·95761	0·40956		1·95749	0·41013	2
3		2·93695	0·61177		2·93678	0·61263		2·93660	0·61348		2·93642	0·61434		2·93624	0·61519	3
4		3·91594	0·81570		3·91570	0·81684		3·91546	0·81798		3·91523	0·81912		3·91499	0·82026	4
5		4·89493	1·01963		4·89463	1·02105		4·89433	1·02248		4·89404	1·02390		4·89374	1·02532	5
6		5·87391	1·22355		5·87356	1·22526		5·87320	1·22697		5·87284	1·22868		5·87248	1·23039	6
7		6·85290	1·42748		6·85248	1·42947		6·85207	1·43147		6·85165	1·43346		6·85123	1·43545	7
8		7·83188	1·63141		7·83141	1·63369		7·83093	1·63596		7·83046	1·63824		7·82998	1·64052	8
9		8·81087	1·83533		8·81034	1·83790		8·80980	1·84046		8·80927	1·84302		8·80873	1·84558	9
10	14	9·78986	2·03926	13	9·78926	2·04211	12	9·78867	2·04496	11	9·78808	2·04780	10	9·78748	2·05065	10
1	56	0·97838	0·20677	57	0·97832	0·20705	58	0·97826	0·20734	59	0·97820	0·20762	60	0·97814	0·20791	1
2		1·95677	0·41354		1·95665	0·41411		1·95653	0·41468		1·95641	0·41525		1·95629	0·41582	2
3		2·93516	0·62032		2·93498	0·62117		2·93480	0·62202		2·93462	0·62288		2·93444	0·62373	3
4		3·91355	0·82709		3·91331	0·82823		3·91307	0·82937		3·91283	0·83050		3·91259	0·83164	4
5		4·89194	1·03386		4·89164	1·03529		4·89134	1·03671		4·89104	1·03813		4·89073	1·03955	5
6		5·87033	1·24064		5·86997	1·24234		5·86961	1·24405		5·86924	1·24576		5·86888	1·24747	6
7		6·84872	1·44741		6·84830	1·44940		6·84787	1·45139		6·84745	1·45339		6·84703	1·45538	7
8		7·82711	1·65418		7·82662	1·65646		7·82614	1·65874		7·82566	1·66101		7·82518	1·66329	8
9		8·80550	1·86096		8·80495	1·86352		8·80441	1·86608		8·80387	1·86864		8·80332	1·87120	9
10	04	9·78389	2·06773	03	9·78328	2·07058	02	9·78268	2·07342	01	9·78208	2·07627	00	9·78147	2·07911	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

5

78 DEG.

D.	M.	Lat.	Dep.	M.	Lat	Dep.	M.	Lat	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·97808	0·20819	02	0·97802	0·20848	03	0·97796	0·20876	04	0·97790	0·20905	05	0·97784	0·20933	1
2		1·95617	0·41639		1·95605	0·41696		1·95593	0·41753		1·95581	0·41810		1·95568	0·41866	2
3		2·93426	0·62458		2·93407	0·62544		2·93389	0·62629		2·93371	0·62715		2·93353	0·62800	3
4		3·91234	0·83278		3·91210	0·83392		3·91186	0·83506		3·91162	0·83620		3·91137	0·83733	4
5		4·89043	1·04098		4·89013	1·04240		4·88982	1·04382		4·88952	1·04525		4·88922	1·04667	5
6		5·86852	1·24917		5·86815	1·25088		5·86779	1·25259		5·86743	1·25430		5·86706	1·25600	6
7		6·84660	1·45737		6·84618	1·45936		6·84576	1·46135		6·84533	1·46335		6·84490	1·46533	7
8		7·82469	1·66556		7·82421	1·66784		7·82372	1·67012		7·82324	1·67240		7·82275	1·67467	8
9		8·80278	1·87376		8·80223	1·87632		8·80169	1·87888		8·80114	1·88145		8·80059	1·88400	9
10	59	9·78087	2·08196	58	9·78026	2·08480	57	9·77965	2·08765	56	9·77905	2·09050	55	9·77844	2·09334	10
1	11	0·97747	0·21104	12	0·97741	0·21132	13	0·97735	0·21160	14	0·97729	0·21189	15	0·97723	0·21217	1
2		1·95495	0·42208		1·95483	0·42264		1·95470	0·42321		1·95458	0·42378		1·95446	0·42435	2
3		2·93243	0·63312		2·93224	0·63397		2·93206	0·63482		2·93187	0·63568		2·93169	0·63653	3
4		3·90990	0·84416		3·90966	0·84529		3·90941	0·84643		3·90917	0·84757		3·90892	0·84871	4
5		4·88738	1·05520		4·88708	1·05662		4·88677	1·05804		4·88646	1·05946		4·88615	1·06088	5
6		5·86486	1·26624		5·86449	1.26794		5·86412	1·26965		5·86375	1·27136		5·86338	1·27306	6
7		6·84234	1·47728		6·84191	1·47927		6·84148	1·48126		6·84104	1·48325		6·84061	1·48524	7
8		7·81981	1·68832		7·81932	1·69059		7·81883	1·69287		7·81834	1·69514		7·81784	1·69742	8
9		8·79729	1·89936		8·79674	1·90192		8·79618	1·90448		8·79563	1·90704		8·79507	1·90959	9
10	49	9·77477	2·11040	48	9·77416	2·11324	47	9·77354	2·11609	46	9·77292	2·11893	45	9·77231	2·12177	10
1	21	0·97685	0·21388	22	0·97679	0·21416	23	0·97673	0·21445	24	0·97667	0·21473	25	0·97660	0·21501	1
2		1·95371	0·42776		1·95359	0·42833		1·95346	0·42890		1·95334	0·42947		1·95322	0·43003	2
3		2·93057	0·64164		2·93039	0·64250		2·93020	0·64335		2·93001	0·64420		2·92983	0·64505	3
4		3·90743	0·85553		3·90718	0·85666		3·90693	0·85780		3·90668	0·85894		3·90644	0·86007	4
5		4·88429	1·06941		4·88398	1·07083		4·88367	1·07225		4·88336	1·07367		4·88305	1·07509	5
6		5·86115	1·28329		5·86078	1·28500		5·86040	1·28670		5·86003	1·28841		5·85966	1·29011	6
7		6·83801	1·49718		6·83757	1·49916		6·83714	1·50115		6·83670	1·50314		6·83627	1·50513	7
8		7·81487	1·71106		7·81437	1·71333		7·81387	1·71560		7·81337	1·71788		7·81288	1·72015	8
9		8·79173	1·92494		8·79117	1·92750		8·79061	1·93006		8·79005	1·93261		8·78949	1·93517	9
10	39	9·76859	2·13883	38	9·76797	2·14167	37	9·76734	2·14451	36	9·76672	2·14735	35	9·76610	2·15019	10
1	31	0·97623	0·21672	32	0·97617	0·21700	33	0·97610	0·21729	34	0·97604	0·21757	35	0·97598	0·21785	1
2		1·95246	0·43344		1·95234	0·43401		1·95221	0·43458		1·95208	0·43515		1·95196	0·43571	2
3		2·92869	0·65017		2·92851	0·65102		2·92832	0·65187		2·92813	0·65272		2·92794	0·65357	3
4		3·90493	0·86689		3·90468	0·86803		3·90442	0·86916		3·90417	0·87030		3·90392	0·87143	4
5		4·88116	1·08361		4·88085	1·08503		4·88053	1·08645		4·88021	1·08787		4·87990	1·08929	5
6		5·85739	1·30034		5·85702	1·30204		5·85664	1·30374		5·85626	1·30545		5·85588	1·30715	6
7		6·83363	1·51706		6·83319	1·51905		6·83274	1·52104		6·83230	1·52302		6·83186	1·52501	7
8		7·80986	1·73378		7·80936	1·73606		7·80885	1·73833		7·80834	1·74060		7·80784	1·74287	8
9		8·78609	1·95051		8·78553	1·95306		8·78496	1·95562		8·78439	1·95817		8·78382	1·96073	9
10	29	9·76233	2·16723	28	9·76170	2·17007	27	9·76106	2·17291	26	9·76043	2·17575	25	9·75980	2·17859	10
1	41	0·97559	0·21956	42	0·97553	0·21984	43	0·97547	0·22013	44	0·97540	0·22041	45	0·97534	0·22069	1
2		1·95119	0·43912		1·95106	0·43969		1·95094	0·44026		1·95081	0·44082		1·95068	0·44139	2
3		2·92679	0·65868		2·92660	0·65953		2·92641	0·66039		2·92621	0·66124		2·92602	0·66209	3
4		3·90239	0·87824		3·90213	0·87938		3·90188	0·88052		3·90162	0·88165		3·90136	0·88278	4
5		4·87799	1·09781		4·87767	1·09923		4·87735	1·10065		4·87703	1·10206		4·87671	1·10348	5
6		5·85359	1·31737		5·85320	1·31907		5·85282	1·32078		5·85243	1·32248		5·85205	1·32418	6
7		6·82918	1·53693		6·82874	1·53892		6·82829	1·54091		6·82784	1·54289		6·82739	1·54488	7
8		7·80478	1·75649		7·80427	1·75876		7·80376	1·76104		7·80325	1·76330		7·80273	1·76557	8
9		8·78038	1·97606		8·77981	1·97861		8·77923	1·98117		8·77865	1·98372		8·77808	1·98627	9
10	19	9·75598	2·19562	18	9·75534	2·19846	17	9·75470	2·20130	16	9·75406	2·20413	15	9·75342	2·20697	10
1	51	0·97495	0·22239	52	0·97489	0·22268	53	0·97482	0·22296	54	0·97476	0·22325	55	0·97469	0·22353	1
2		1·94991	0·44479		1·94978	0·44536		1·94965	0·44593		1·94952	0·44650		1·94939	0·44706	2
3		2·92486	0·66719		2·92467	0·66804		2·92447	0·66889		2·92428	0·66975		2·92408	0·67060	3
4		3·89982	0·88959		3·89956	0·89073		3·89930	0·89186		3·89904	0·89300		3·89878	0·89413	4
5		4·87477	1·11199		4·87445	1·11341		4·87413	1·11483		4·87380	1·11625		4·87348	1·11766	5
6		5·84973	1·33439		5·84934	1·33609		5·84895	1·33779		5·84856	1·33950		5·84817	1·34120	6
7		6·82468	1·55679		6·82423	1·55878		6·82378	1·56076		6·82332	1·56275		6·82287	1·56473	7
8		7·79964	1·77919		7·79912	1·78146		7·79860	1·78373		7·79808	1·78600		7·79756	1·78826	8
9		8·77460	2·00159		8·77401	2·00414		8·77343	2·00669		8·77285	2·00925		8·77226	2·01180	9
10	09	9·74955	2·22399	08	9·74891	2·22683	07	9·74826	2·22966	06	9·74761	2·23250	05	9·74696	2·23533	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 77.

12 DEG.

D	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D
1	06	0·97778	0·20961	07	0·97772	0·20990	08	0·97766	0·21018	09	0·97760	0·21047	10	0·97753	0·21075	1
2		1·95556	0·41923		1·95544	0·41980		1·95532	0·42037		1·95520	0·42094		1·95507	0·42151	2
3		2·93334	0·62885		2·93316	0·62970		2·93298	0·63056		2·93280	0·63141		2·93261	0·63226	3
4		3·91113	0·83847		3·91088	0·83961		3·91064	0·84074		3·91040	0·84188		3·91015	0·84302	4
5		4·88891	1·04809		4·88861	1·04951		4·88830	1·05093		4·88800	1·05235		4·88769	1·05378	5
6		5·86669	1·25771		5·86633	1·25941		5·86596	1·26112		5·86560	1·26283		5·86523	1·26453	6
7		6·84448	1·46733		6·84405	1·46932		6·84362	1·47131		6·84320	1·47330		6·84277	1·47529	7
8		7·82226	1·67694		7·82177	1·67922		7·82128	1·68149		7·82080	1·68377		7·82030	1·68604	8
9		8·80004	1·88656		8·79949	1·88912		8·79894	1·89168		8·79840	1·89424		8·79784	1·89680	9
10	54	9·77783	2·09618	53	9·77722	2·09903	52	9·77661	2·10187	51	9·77600	2·10471	50	9·77538	2·10756	10
1	16	0·97716	0·21246	17	0·97710	0·21274	18	0·97704	0·21303	19	0·97698	0·21331	20	0·97692	0·21359	1
2		1·95433	0·42492		1·95421	0·42549		1·95409	0·42606		1·95396	0·42662		1·95384	0·42719	2
3		2·93150	0·63738		2·93132	0·63823		2·93113	0·63909		2·93095	0·63994		2·93076	0·64079	3
4		3·90867	0·84984		3·90843	0·85098		3·90818	0·85212		3·90793	0·85325		3·90768	0·85439	4
5		4·88584	1·06230		4·88553	1·06373		4·88522	1·06515		4·88491	1·06657		4·88460	1·06799	5
6		5·86301	1·27477		5·86264	1·27647		5·86227	1·27818		5·86190	1·27988		5·86152	1·28159	6
7		6·84018	1·48723		6·83975	1·48922		6·83931	1·49121		6·83888	1·49320		6·83845	1·49519	7
8		7·81735	1·69969		7·81686	1·70196		7·81636	1·70424		7.81586	1·70651		7·81537	1·70879	8
9		8·79452	1·91215		8·79396	1·91471		8·79341	1·91727		8·79285	1·91983		8·79229	1·92238	9
10	44	9·77169	2·12462	43	9·77107	2·12746	42	9·77045	2·13030	41	9·76983	2·13314	40	9·76921	2·13598	10
1	26	0·97654	0·21530	27	0·97648	0·21558	28	0·97642	0·21587	29	0·97635	0·21615	30	0·97629	0·21644	1
2		1·95309	0·43060		1·95296	0·43117		1·95284	0·43174		1·95271	0·43231		1·95259	0·43288	2
3		2·92964	0·64591		2·92945	0·64676		2·92926	0·64761		2·92907	0·64846		2·92888	0·64932	3
4		3·90618	0·86121		3·90593	0·86235		3·90568	0·86348		3·90543	0·86462		3·90518	0·86576	4
5		4·88273	1·07651		4·88242	1·07793		4·88210	1·07935		4·88179	1·08077		4·88148	1·08220	5
6		5·85928	1·29182		5·85890	1·29352		5·85853	1·29522		5·85815	1·29693		5·85777	1·29864	6
7		6·83583	1·50712		6·83539	1·50911		6·83495	1·51110		6·83451	1·51308		6·83407	1·51508	7
8		7·81237	1·72242		7·81187	1·72470		7·81137	1·72697		7·81087	1·72924		7·81036	1·73152	8
9		8·78892	1·93773		8·78836	1·94028		8·78779	1·94284		8·78723	1·94540		8·78666	1·94796	9
10	34	9·76547	2·15303	33	9·76484	2·15587	32	9·76421	2·15871	31	9·76359	2·16155	30	9·76296	2·16440	10
1	36	0·97591	0·21814	37	0·97585	0·21842	38	0·97578	0·21871	39	0·97572	0·21899	40	0·97566	0·21927	1
2		1·95183	0·43628		1·95170	0·43685		1·95157	0·43742		1·95145	0·43798		1·95132	0·43855	2
3		2·92775	0·65442		2·92755	0·65528		2·92736	0·65613		2·92717	0·65698		2·92698	0·65783	3
4		3·90366	0·87257		3·90341	0·87370		3·90315	0·87484		3·90290	0·87597		3·90264	0·87711	4
5		4·87958	1·09071		4·87926	1·09213		4·87894	1·09355		4·87863	1·09497		4·87831	1·09639	5
6		5·85550	1·30885		5·85511	1·31056		5·85473	1·31226		5·85435	1·31396		5·85397	1·31567	6
7		6·83141	1·52700		6·83097	1·52898		6·83052	1·53097		6·83008	1·53296		6·82963	1·53495	7
8		7·80733	1·74514		7·80682	1·74741		7·80631	1·74968		7.80580	1·75195		7·80529	1·75422	8
9		8·78325	1·96328		8·78267	1·96584		8·78210	1·96839		8·78153	1·97095		8·78096	1·97350	9
10	24	9·75916	2·18143	23	9·75853	2·18427	22	9·75789	2·18711	21	9·75726	2·18994	20	9·75662	2·19278	10
1	46	0·97527	0·22098	47	0·97521	0·22126	48	0·97514	0·22154	49	0·97508	0·22183	50	0·97502	0·22211	1
2		1·95055	0·44196		1·95042	0·44252		1·95029	0·44309		1·95016	0·44366		1·95004	0·44423	2
3		2·92583	0·66294		2·92564	0·66379		2·92544	0·66464		2·92525	0·66549		2·92506	0·66634	3
4		3·90111	0·88392		3·90085	0·88505		3·90059	0·88619		3·90033	0·88732		3·90008	0·88846	4
5		4·87639	1·10490		4·87606	1·10632		4·87574	1·10774		4·87542	1·10916		4·87510	1·11057	5
6		5·85166	1·32588		5·85128	1·32758		5·85089	1·32929		5·85050	1·33099		5·85012	1·33269	6
7		6·82694	1·54686		6·82649	1·54885		6·82604	1·55083		6·82559	1·55282		6·82514	1·55481	7
8		7·80222	1·76784		7·80171	1·77011		7·80119	1·77238		7·80067	1·77465		7·80016	1·77692	8
9		8·77750	1·98882		8·77692	1·99138		8·77634	1·99393		8·77576	1·99648		8·77518	1·99904	9
10	14	9·75278	2·20981	13	9·75213	2·21264	12	9·75149	2·21548	11	9·75085	2·21832	10	9·75020	2·22115	10
1	56	0·97463	0·22381	57	0·97456	0·22410	58	0·97450	0·22438	59	0·97443	0·22466	60	0·97437	0·22495	1
2		1·94926	0·44763		1·94913	0·44820		1·94900	0·44876		1·94887	0·44933		1·94874	0·44990	2
3		2·92389	0·67145		2·92369	0·67230		2·92350	0·67315		2·92330	0·67400		2·92311	0·67485	3
4		3·89852	0·89526		3·89826	0·89640		3·89800	0·89753		3·89774	0·89867		3·89748	0·89980	4
5		4·87315	1·11908		4·87283	1·12050		4·87250	1·12192		4·87217	1·12333		4·87185	1·12475	5
6		5·84778	1·34290		5·84739	1·34460		5·84700	1·34630		5·84661	1·34800		5·84622	1·34970	6
7		6·82241	1·56672		6·82196	1·56870		6·82150	1·57068		6·82104	1·57267		6·82059	1·57465	7
8		7·79704	1·79053		7·79652	1·79280		7·79600	1·79507		7·79548	1·79734		7·79496	1·79960	8
9		8·77167	2·01435		8·77109	2·01690		8·77050	2·01945		8·76991	2·02200		8·76933	2·02455	9
10	04	9·74631	2·23817	03	9·74566	2·24100	02	9·74500	2·24384	01	9·74435	2·24667	00	9·74370	2·24951	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

77 DEG.

DIFFERENCE OF LATITUDE AND DEPARTURE.

DEG. 13.

D.	M.	Lat	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·97430	0·22523	02	0·97423	0·22551	03	0·97417	0·22580	04	0·97410	0·22608	05	0·97404	0·22636	1
2		1·94860	0·45046		1·94847	0·45103		1·94834	0·45160		1·94821	0·45216		1·94808	0·45273	2
3		2·92291	0·67570		2·92271	0·67655		2·92252	0·67740		2·92232	0·67825		2·92212	0·67910	3
4		3·89721	0·90093		3·89695	0·90207		3·89669	0·90320		3·89643	0·90433		3·89616	0·90547	4
5		4·87152	1·12617		4·87119	1·12759		4·87086	1·12900		4·87053	1·13042		4·87021	1·13184	5
6		5·84582	1·35140		5·84543	1·35310		5·84504	1·35480		5·84464	1·35650		5·84425	1·35820	6
7		6·82013	1·57664		6·81967	1·57862		6·81921	1·58060		6·81875	1·58259		6·81829	1·58457	7
8		7·79443	1·80187		7·79391	1·80414		7·79338	1·80641		7·79286	1·80867		7·79233	1·81094	8
9		8·76874	2·02711		8·76815	2·02966		8·76756	2·03221		8·76696	2·03476		8·76637	2·03731	9
10	59	9·74304	2·25234	58	9·74239	2·25518	57	9·74173	2·25801	56	9·74107	2·26084	55	9·74042	2·26368	10
1	11	0·97364	0·22806	12	0·97357	0·22835	13	0·97351	0·22863	14	0·97344	0·22891	15	0·97337	0·22920	1
2		1·94729	0·45613		1·94715	0·45670		1·94702	0·45726		1·94689	0·45783		1·94675	0·45840	2
3		2·92093	0·68420		2·92073	0·68505		2·92053	0·68590		2·92033	0·68675		2·92013	0·68760	3
4		3·89458	0·91227		3·89431	0·91340		3·89404	0·91453		3·89378	0·91566		3·89351	0·91680	4
5		4·86822	1·14033		4·86789	1·14175		4·86756	1·14317		4·86723	1·14458		4·86689	1·14600	5
6		5·84187	1·36840		5·84147	1·37010		5·84107	1·37180		5·84067	1·37350		5·84027	1·37520	6
7		6·81551	1·59647		6·81505	1·59845		6·81458	1·60043		6·81412	1·60242		6·81365	1·60440	7
8		7·78916	1·82454		7·78863	1·82680		7·78809	1·82907		7·78756	1·83133		7·78703	1·83360	8
9		8·76280	2·05260		8·76221	2·05515		8·76161	2·05770		8·76101	2·06025		8·76041	2·06280	9
10	49	9·73645	2·28067	48	9·73579	2·28351	47	9·73512	2·28634	46	9·73446	2·28917	45	9·73379	2·29200	10
1	21	0·97297	0·23089	22	0·97291	0·23118	23	0·97284	0·23146	24	0·97277	0·23174	25	0·97270	0·23203	1
2		1·94595	0·46179		1·94582	0·46236		1·94568	0·46292		1·94555	0·46349		1·94541	0·46406	2
3		2·91893	0·69269		2·91873	0·69354		2·91852	0·69439		2·91832	0·69524		2·91812	0·69609	3
4		3·89191	0·92359		3·89164	0·92472		3·89137	0·92585		3·89110	0·92699		3·89083	0·92812	4
5		4·86488	1·15449		4·86455	1·15591		4·86421	1·15732		4·86388	1·15874		4·86354	1·16015	5
6		5·83786	1·38539		5·83746	1·38709		5·83705	1·38878		5·83665	1·39048		5·83625	1·39218	6
7		6·81084	1·61629		6·81037	1·61827		6·80990	1·62025		6·80943	1·62223		6·80895	1·62421	7
8		7·78382	1·84719		7·78328	1·84945		7·78274	1·85171		7·78220	1·85398		7·78166	1·85624	8
9		8·75679	2·07809		8·75619	2·08063		8·75558	2·08318		8·75498	2·08573		8·75437	2·08827	9
10	39	9·72977	2·30899	38	9·72910	2·31182	37	9·72843	2·31465	36	9·72776	2·31748	35	9·72708	2·32031	10
1	31	0·97230	0·23372	32	0·97223	0·23401	33	0·97216	0·23429	34	0·97209	0·23457	35	0·97202	0·23485	1
2		1·94460	0·46745		1·94446	0·46802		1·94432	0·46858		1·94419	0·46915		1·94405	0·46971	2
3		2·91690	0·70118		2·91670	0·70203		2·91649	0·70288		2·91629	0·70372		2·91609	0·70457	3
4		3·88920	0·93491		3·88893	0·93604		3·88866	0·93717		3·88839	0·93830		3·88811	0·93943	4
5		4·86151	1·16864		4·86117	1·17005		4·86082	1·17146		4·86048	1·17288		4·86014	1·17429	5
6		5·83381	1·40236		5·83340	1·40406		5·83299	1·40576		5·83258	1·40745		5·83217	1·40915	6
7		6·80611	1·63609		6·80563	1·63807		6·80516	1·64005		6·80468	1·64203		6·80420	1·64401	7
8		7·77841	1·86982		7·77787	1·87208		7·77732	1·87435		7·77678	1·87661		7·77623	1·87887	8
9		8·75071	2·10355		8·75010	2·10609		8·74949	2·10864		8·74887	2·11118		8·74826	2·11373	9
10	29	9·72302	2·33728	28	9·72234	2·34011	27	9·72165	2·34293	26	9·72097	2·34576	25	9·72029	2·34859	10
1	41	0·97161	0·23655	42	0·97154	0·23683	43	0·97148	0·23712	44	0·97141	0·23740	45	0·97134	0·23768	1
2		1·94323	0·47311		1·94309	0·47367		1·94296	0·47424		1·94282	0·47480		1·94268	0·47537	2
3		2·91485	0·70966		2·91464	0·71051		2·91444	0·71136		2·91423	0·71220		2·91402	0·71305	3
4		3·88647	0·94622		3·88619	0·94735		3·88592	0·94848		3·88564	0·94961		3·88536	0·95074	4
5		4·85809	1·18277		4·85774	1·18419		4·85740	1·18560		4·85705	1·18701		4·85671	1·18843	5
6		5·82970	1·41933		5·82929	1·42102		5·82888	1·42272		5·82846	1·42441		5·82805	1·42611	6
7		6·80132	1·65588		6·80084	1·65786		6·80036	1·65984		6·79987	1·66182		6·79939	1·66380	7
8		7·77294	1·89244		7·77239	1·89470		7·77184	1·89696		7·77128	1·89922		7·77073	1·90148	8
9		8·74456	2·12899		8·74394	2·13154		8·74332	2·13408		8·74270	2·13662		8·74207	2·13917	9
10	19	9·71618	2·36555	18	9·71549	2·36838	17	9·71480	2·37120	16	9·71411	2·37403	15	9·71342	2·37686	10
1	51	0·97092	0·23938	52	0·97085	0·23966	53	0·97078	0·23994	54	0·97071	0·24022	55	0·97064	0·24051	1
2		1·94185	0·47876		1·94171	0·47932		1·94157	0·47989		1·94143	0·48045		1·94129	0·48102	2
3		2·91277	0·71814		2·91256	0·71898		2·91235	0·71983		2·91214	0·72068		2·91193	0·72153	3
4		3·88370	0·95752		3·88342	0·95865		3·88314	0·95978		3·88286	0·96091		3·88258	0·96204	4
5		4·85462	1·19690		4·85428	1·19831		4·85393	1·19972		4·85358	1·20114		4·85323	1·20255	5
6		5·82555	1·43628		5·82513	1·43797		5·82471	1·43967		5·82429	1·44136		5·82387	1·44306	6
7		6·79648	1·67566		6·79599	1·67764		6·79550	1·67961		6·79501	1·68159		6·79452	1·68357	7
8		7·76740	1·91504		7·76684	1·91730		7·76629	1·91956		7·76573	1·92182		7·76517	1·92408	8
9		8·73833	2·15442		8·73770	2·15696		8·73707	2·15951		8·73644	2·16205		8·73581	2·16459	9
10	09	9·70925	2·39380	08	9·70856	2·39663	07	9·70786	2·39945	06	9·70716	2·40228	05	9·70646	2·40510	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M	Dep.	Lat.	D.

DEG. 76.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·97397	0·22665	07	0·97391	0·22693	08	0·97384	0·22721	09	0·97377	0·22750	10	0·97371	0·22778	1
2		1·94795	0·45330		1·94782	0·45386		1.94768	0·45443		1·94755	0·45500		1·94742	0·45556	2
3		2·92192	0·67995		2·92173	0·68080		2·92153	0·68165		2·92133	0·68250		2·92113	0·68335	3
4		3·89590	0·90660		3·89564	0·90773		3·89537	0·90887		3·89511	0·91000		3·89484	0·91113	4
5		4·86988	1·13325		4·86955	1·13467		4·86922	1·13609		4·86888	1·13750		4·86855	1·13892	5
6		5·84385	1·35990		5·84346	1·36160		5·84306	1·36330		5·84266	1·36500		5·84226	1·36670	6
7		6·81783	1·58655		6·81737	1·58854		6·81690	1·59052		6·81644	1·59250		6·81598	1·59449	7
8		7·79180	1·81321		7·79128	1·81547		7·79075	1·81774		7·79022	1·82000		7·78969	1·82227	8
9		8·76578	2·03986		8·76519	2·04241		8·76459	2·04496		8·76400	2·04751		8·76340	2·05005	9
10	54	9·73976	2·26651	53	9·73910	2·26934	52	9·73844	2·27218	51	9·73777	2·27501	50	9·73711	2·27784	10
1	16	0·97331	0·22948	17	0·97324	0·22976	18	0·97317	0·23004	19	0·97311	0·23033	20	0·97304	0·23061	1
2		1·94662	0·45896		1·94649	0·45953		1·94635	0·46009		1·94622	0·46066		1·94608	0·46123	2
3		2·91993	0·68845		2·91973	0·68929		2·91953	0·69014		2·91933	0·69099		2·91913	0·69184	3
4		3·89325	0·91793		3·89298	0·91906		3·89271	0·92019		3·89244	0·92133		3·89217	0·92246	4
5		4·86656	1·14741		4·86622	1·14883		4·86589	1·15024		4·86556	1·15166		4·86522	1·15308	5
6		5·83987	1·37690		5·83947	1·37859		5·83907	1·38029		5·83867	1·38199		5·83826	1·38369	6
7		6·81318	1·60638		6·81272	1·60836		6·81225	1·61034		6·81178	1·61232		6·81131	1·61431	7
8		7·78650	1·83586		7·78596	1·83813		7·78543	1·84039		7·78489	1·84266		7·78435	1·84492	8
9		8·75981	2·06535		8·75921	2·06789		8·75861	2·07044		8·75800	2·07299		8·75740	2·07554	9
10	44	9·73312	2·29483	43	9·73245	2·29766	42	9·73179	2·30049	41	9·73112	2·30332	40	9·73045	2·30616	10
1	26	0·97264	0·23231	27	0·97257	0·23259	28	0·97250	0·23288	29	0·97243	0·23316	30	0·97237	0·23344	1
2		1·94528	0·46462		1·94514	0·46519		1·94501	0·46576		1·94487	0·46632		1·94474	0·46689	2
3		2·91792	0·69694		2·91771	0·69779		2·91751	0·69864		2·91731	0·69948		2·91711	0·70033	3
4		3·89056	0·92925		3·89029	0·93038		3·89002	0·93152		3·88975	0·93265		3·88948	0·93378	4
5		4·86320	1·16156		4·86286	1·16298		4·86252	1·16440		4·86218	1·16581		4·86185	1·16722	5
6		5·83584	1·39388		5·83543	1·39558		5·83503	1·39728		5·83462	1·39897		5·83422	1·40067	6
7		6·80848	1·62619		6·80801	1·62817		6·80753	1·63016		6·80706	1·63213		6·80659	1·63411	7
8		7·78112	1·85851		7·78058	1·86077		7·78004	1·86304		7·77950	1·86530		7·77896	1·86756	8
9		8·75376	2·09082		8·75315	2·09337		8·75255	2·09592		8·75194	2·09846		8·75133	2·10100	9
10	34	9·72641	2·32313	33	9·72573	2·32596	32	9·72505	2·32880	31	9·72437	2·33162	30	9·72370	2·33445	10
1	36	0·97196	0·23514	37	0·97189	0·23542	38	0·97182	0·23570	39	0·97175	0·23599	40	0·97168	0·23627	1
2		1·94392	0·47028		1·94378	0·47084		1·94364	0·47141		1·94351	0·47198		1·94337	0·47254	2
3		2·91588	0·70542		2·91567	0·70627		2·91547	0·70712		2·91526	0·70797		2·91506	0·70881	3
4		3·88784	0·94056		3·88757	0·94169		3·88729	0·94283		3·88702	0·94396		3·88674	0·94509	4
5		4·85980	1·17571		4·85946	1·17712		4·85912	1·17853		4·85877	1·17995		4·85843	1·18136	5
6		5·83176	1·41085		5·83135	1·41254		5·83094	1·41424		5·83053	1·41594		5·83012	1·41763	6
7		6·80372	1·64599		6·80324	1·64797		6·80276	1·64995		6·80228	1·65193		6·80180	1·65391	7
8		7·77568	1·88113		7·77514	1·88339		7·77459	1·88566		7·77404	1·88792		7·77349	1·89018	8
9		8·74764	2·11627		8·74703	2·11882		8·74641	2·12136		8·74579	2·12391		8·74518	2·12645	9
10	24	9·71961	2·35142	23	9·71892	2·35424	22	9·71824	2·35707	21	9·71755	2·35990	20	9·71686	2·36273	10
1	46	0·97127	0·23796	47	0·97120	0·23825	48	0·97113	0·23853	49	0·97106	0·23881	50	0·97099	0·23909	1
2		1·94254	0·47593		1·94240	0·47650		1·94226	0·47706		1·94212	0·47763		1·94199	0·47819	2
3		2·91381	0·71390		2·91361	0·71475		2·91340	0·71560		2·91319	0·71644		2·91298	0·71729	3
4		3·88509	0·95187		3·88481	0·95300		3·88453	0·95413		3·88425	0·95526		3·88398	0·95639	4
5		4·85636	1·18984		4·85601	1·19125		4·85567	1·19266		4·85532	1·19408		4·85497	1·19549	5
6		5·82763	1·42781		5·82722	1·42950		5·82680	1·43120		5·82638	1·43289		5·82597	1·43459	6
7		6·79891	1·66577		6·79842	1·66775		6·79794	1·66973		6·79745	1·67171		6·79696	1·67368	7
8		7·77018	1·90374		7·76962	1·90600		7·76907	1·90826		7·76851	1·91052		7·76796	1·91278	8
9		8·74145	2·14171		8·74083	2·14425		8·74020	2·14680		8·73958	2·14934		8·73895	2·15188	9
10	14	9·71273	2·37968	13	9·71203	2·38251	12	9·71134	2·38533	11	9·71065	2·38816	10	9·70995	2·39098	10
1	56	0·97057	0·24079	57	0·97050	0·24107	58	0·97043	0·24135	59	0·97036	0·24164	60	0·97029	0·24192	1
2		1·94115	0·48158		1·94101	0·48215		1·94087	0·48271		1·94073	0·48328		1·94059	0·48384	2
3		2·91172	0·72237		2·91151	0·72322		2·91130	0·72407		2·91109	0·72492		2·91088	0·72576	3
4		3·88230	0·96317		3·88202	0·96430		3·88174	0·96542		3·88146	0·96656		3·88118	0·96768	4
5		4·85288	1·20396		4·85253	1·20537		4·85218	1·20678		4·85183	1·20820		4·85147	1·20961	5
6		5·82345	1·44475		5·82303	1·44645		5·82261	1·44814		5·82219	1·44984		5·82177	1·45153	6
7		6·79403	1·68554		6·79354	1·68752		6·79305	1·68950		6·79256	1·69148		6·79206	1·69345	7
8		7·76461	1·92634		7·76405	1·92860		7·76349	1·93085		7·76292	1·93312		7·76236	1·93537	8
9		8·73518	2·16713		8·73455	2·16967		8·73392	2·17221		8·73329	2·17476		8·73266	2·17729	9
10	04	9·70576	2·40792	03	9·70506	2·41075	02	9·70436	2·41357	01	9·70366	2·41640	00	9·70295	2·41922	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

76 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·97022	0·24220	02	0·97015	0·24248	03	0·97008	0·24276	04	0·97001	0·24305	05	0·96994	0·24333	1
2		1·94045	0·48440		1·94030	0·48497		1·94016	0·48553		1·94002	0·48610		1·93988	0·48666	2
3		2·91067	0·72661		2·91046	0·72745		2·91025	0·72830		2·91004	0·72915		2·90982	0·72999	3
4		3·88090	0·96881		3·88061	0·96994		3·88033	0·97107		3·88005	0·97220		3·87977	0·97333	4
5		4·85112	1·21102		4·85077	1·21243		4·85042	1·21384		4·85006	1·21525		4·84971	1·21666	5
6		5·82135	1·45322		5·82092	1·45491		5·82050	1·45660		5·82008	1·45830		5·81965	1·45999	6
7		6·79157	1·69542		6·79108	1·69740		6·79058	1·69937		6·79009	1·70135		6·78959	1·70333	7
8		7·76180	1·93763		7·76123	1·93989		7·76067	1·94214		7·76010	1·94440		7·75954	1·94666	8
9		8·73202	2·17983		8·73139	2·18237		8·73075	2·18491		8·73012	2·18745		8·72948	2·18999	9
10	59	9·70225	2·42204	58	9·70154	2·42486	57	9·70084	2·42768	56	9·70013	2·43050	55	9·69942	2·43333	10
1	11	0·96951	0·24502	12	0·96944	0·24530	13	0·96937	0·24558	14	0·96930	0·24587	15	0·96923	0·24615	1
2		1·93903	0·49005		1·93889	0·49061		1·93874	0·49117		1·93860	0·49174		1·93846	0·49230	2
3		2·90855	0·73507		2·90833	0·73592		2·90812	0·73676		2·90790	0·73761		2·90769	0·73845	3
4		3·87806	0·98010		3·87778	0·98122		3·87749	0·98235		3·87721	0·98348		3·87692	0·98461	4
5		4·84758	1·22512		4·84722	1·22653		4·84687	1·22794		4·84651	1·22935		4·84615	1·23076	5
6		5·81710	1·47015		5·81667	1·47184		5·81624	1·47353		5·81581	1·47522		5·81538	1·47691	6
7		6·78661	1·71517		6·78611	1·71715		6·78561	1·71912		6·78511	1·72109		6·78461	1·72307	7
8		7·75613	1·96020		7·75556	1·96245		7·75499	1·96471		7·75442	1·96697		7·75384	1·96922	8
9		8·72565	2·20522		8·72500	2·20776		8·72436	2·21030		8·72372	2·21284		8·72307	2·21537	9
10	49	9·69516	2·45025	48	9·69445	2·45307	47	9·69374	2·45589	46	9·69302	2·45871	45	9·69231	2·46153	10
1	21	0·96879	0·24784	22	0·96872	0·24812	23	0·96865	0·24840	24	0·96858	0·24869	25	0·96851	0·24897	1
2		1·93759	0·49568		1·93745	0·49625		1·93731	0·49681		1·93716	0·49738		1·93702	0·49794	2
3		2·90639	0·74353		2·90618	0·74437		2·90596	0·74522		2·90574	0·74607		2·90553	0·74691	3
4		3·87519	0·99137		3·87491	0·99250		3·87462	0·99363		3·87433	0·99476		3·87404	0·99588	4
5		4·84399	1·23922		4·84363	1·24063		4·84327	1·24204		4·84291	1·24345		4·84255	1·24485	5
6		5·81279	1·48706		5·81236	1·48875		5·81193	1·49044		5·81149	1·49214		5·81106	1·49382	6
7		6·78159	1·73491		6·78109	1·73688		6·78058	1·73885		6·78008	1·74083		6·77957	1·74280	7
8		7·75039	1·98275		7·74982	1·98501		7·74924	1·98726		7·74866	1·98952		7·74808	1·99177	8
9		8·71919	2·23060		8·71854	2·23313		8·71789	2·23567		8·71724	2·23821		8·71659	2·24074	9
10	39	9·68799	2·47844	38	9·68727	2·48126	37	9·68655	2·48408	36	9·68583	2·48690	35	9·68510	2·48971	10
1	31	0·96807	0·25066	32	0·96800	0·25094	33	0·96792	0·25122	34	0·96785	0·25150	35	0·96778	0·25178	1
2		1·93614	0·50132		1·93600	0·50188		1·93585	0·50244		1·93571	0·50301		1·93556	0·50357	2
3		2·90422	0·75198		2·90400	0·75282		2·90378	0·75367		2·90356	0·75451		2·90334	0·75536	3
4		3·87229	1·00264		3·87200	1·00377		3·87171	1·00489		3·87142	1·00602		3·87113	1·00715	4
5		4·84037	1·25330		4·84000	1·25471		4·83964	1·25612		4·83927	1·25753		4·83891	1·25894	5
6		5·80844	1·50396		5·80801	1·50565		5·80757	1·50734		5·80713	1·50903		5·80669	1·51072	6
7		6·77652	1·75463		6·77601	1·75660		6·77550	1·75857		6·77498	1·76054		6·77447	1·76251	7
8		7·74459	2·00529		7·74401	2·00754		7·74343	2·00979		7·74284	2·01205		7·74226	2·01430	8
9		8·71267	2·25595		8·71201	2·25848		8·71135	2·26102		8·71070	2·26355		8·71004	2·26609	9
10	29	9·68074	2·50661	28	9·68001	2·50943	27	9·67928	2·51224	26	9·67855	2·51506	25	9·67782	2·51788	10
1	41	0·96734	0·25347	42	0·96726	0·25375	43	0·96719	0·25403	44	0·96712	0·25432	45	0·96704	0·25460	1
2		1·93468	0·50695		1·93453	0·50751		1·93438	0·50807		1·93424	0·50864		1·93409	0·50920	2
3		2·90202	0·76042		2·90180	0·76127		2·90158	0·76211		2·90136	0·76296		2·90113	0·76380	3
4		3·86936	1·01390		3·86907	1·01503		3·86877	1·01615		3·86848	1·01728		3·86818	1·01840	4
5		4·83670	1·26738		4·83633	1·26879		4·83597	1·27019		4·83560	1·27160		4·83523	1·27301	5
6		5·80404	1·52085		5·80360	1·52254		5·80316	1·52423		5·80272	1·52592		5·80227	1·52761	6
7		6·77139	1·77433		6·77087	1·77630		6·77035	1·77827		6·76984	1·78024		6·76932	1·78221	7
8		7·73873	2·02781		7·73814	2·03006		7·73755	2·03231		7·73696	2·03456		7·73636	2·03681	8
9		8·70607	2·28128		8·70541	2·28382		8·70474	2·28635		8·70408	2·28888		8·70341	2·29141	9
10	19	9·67341	2·53476	18	9·67267	2·53758	17	9·67194	2·54039	16	9·67120	2·54320	15	9·67046	2·54602	10
1	51	0·96660	0·25628	52	0·96652	0·25657	53	0·96645	0·25685	54	0·96637	0·25713	55	0·96630	0·25741	1
2		1·93320	0·51257		1·93305	0·51314		1·93290	0·51370		1·93275	0·51426		1·93260	0·51482	2
3		2·89980	0·76886		2·89957	0·76971		2·89935	0·77055		2·89912	0·77139		2·89890	0·77224	3
4		3·86640	1·02515		3·86610	1·02628		3·86580	1·02740		3·86550	1·02853		3·86520	1·02965	4
5		4·83300	1·28144		4·83262	1·28285		4·83225	1·28425		4·83188	1·28566		4·83150	1·28707	5
6		5·79960	1·53773		5·79915	1·53942		5·79870	1·54111		5·79825	1·54279		5·79780	1·54448	6
7		6·76620	1·79402		6·76567	1·79599		6·76515	1·79796		6·76463	1·79992		6·76410	1·80189	7
8		7·73280	2·05031		7·73220	2·05256		7·73160	2·05481		7·73100	2·05706		7·73040	2·05931	8
9		8·69940	2·30660		8·69872	2·30913		8·69805	2·31166		8·69738	2·31419		8·69671	2·31672	9
10	09	9·66600	2·56289	08	9·66525	2·56570	07	9·66450	2·56851	06	9·66376	2·57132	05	9·66301	2·57414	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 75.

D	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D
1	06	0·96987	0·24361	07	0·96980	0·24389	08	0·96973	0·24417	09	0·96965	0·24446	10	0·96958	0·24474	1
2		1·93974	0·48723		1·93960	0·48779		1·93946	0·48835		1·93931	0·48892		1·93917	0·48948	2
3		2·90961	0·73084		2·90940	0·73169		2·90919	0·73253		2·90897	0·73338		2·90876	0·73422	3
4		3·87948	0·97446		3·87920	0·97558		3·87892	0·97671		3·87863	0·97784		3·87835	0·97897	4
5		4·84936	1·21807		4·84900	1·21948		4·84865	1·22089		4·84829	1·22230		4·84794	1·22371	5
6		5·81923	1·46169		5·81880	1·46338		5·81838	1·46507		5·81795	1·46676		5·81752	1·46845	6
7		6·78910	1·70530		6·78860	1·70727		6·78811	1·70925		6·78761	1·71122		6·78711	1·71320	7
8		7·75897	1·94892		7·75840	1·95117		7·75784	1·95343		7·75727	1·95569		7·75670	1·95794	8
9		8·72884	2·19253		8·72820	2·19507		8·72757	2·19761		8·72693	2·20015		8·72629	2·20268	9
10	54	9·69872	2·43615	53	9·69801	2·43897	52	9 69730	2·44179	51	9·69659	2·44461	50	9·69588	2·44743	10
1	16	0·96915	0·24643	17	0·96908	0·24671	18	0·96901	0·24699	19	0·96894	0·24728	20	0·96887	0·24756	1
2		1·93831	0·49287		1·93817	0·49343		1·93803	0·49399		1·93788	0·49456		1·93774	0·49512	2
3		2·90747	0·73930		2·90726	0·74015		2·90704	0·74099		2·90683	0·74184		2·90661	0·74268	3
4		3·87663	0·98574		3·87635	0·98686		3·87606	0·98799		3·87577	0·98912		3·87548	0·99025	4
5		4·84579	1·23217		4·84543	1·23358		4·84507	1·23499		4·84471	1·23640		4·84436	1·23781	5
6		5·81495	1·47861		5·81452	1·48030		5·81409	1·48199		5·81366	1·48368		5·81323	1·48537	6
7		6·78411	1·72504		6·78361	1·72701		6·78310	1·72899		6·78260	1·73096		6·78210	1·73293	7
8		7·75327	1·97148		7·75270	1·97373		7·75212	1·97599		7·75155	1·97824		7·75097	1·98050	8
9		8·72243	2·21791		8·72178	2·22045		8·72114	2·22299		8·72049	2·22552		8·71984	2·22806	9
10	44	9·69159	2·46435	43	9·69087	2·46717	42	9·69015	2·46999	41	9·68943	2·47281	40	9·68872	2·47562	10
1	26	0·96843	0·24925	27	0·96836	0·24953	28	0·96829	0·24981	29	0·96822	0·25009	30	0·96814	0·25038	1
2		1·93687	0·49850		1·93673	0·49907		1·93658	0·49963		1·93644	0 50019		1·93629	0 50076	2
3		2·90531	0·74775		2·90509	0·74860		2·90487	0·74945		2·90466	0·75029		2·90444	0·75114	3
4		3·87375	0·99701		3·87346	0·99814		3·87317	0·99926		3·87288	1·00039		3·87259	1·00152	4
5		4·84219	1·24626		4·84182	1·24767		4·84146	1·24908		4·84110	1·25049		4·84073	1·25190	5
6		5·81062	1·49551		5·81019	1·49721		5·80975	1·49890		5·80932	1·50059		5·80888	1·50228	6
7		6·77906	1·74477		6·77856	1·74674		6·77805	1·74871		6·77754	1·75068		6·77703	1·75266	7
8		7·74750	1·99402		7·74692	1·99628		7·74634	1·99853		7·74576	2·00078		7·74518	2·00304	8
9		8·71594	2·24327		8·71529	2·24581		8·71463	2·24835		8·71398	2·25088		8 71332	2·25342	9
10	34	9·68438	2·49253	33	9·68365	2·49535	32	9·68293	2·49816	31	9·68220	2·50098	30	9·68147	2·50380	10
1	36	0·96770	0·25206	37	0·96763	0·25235	38	0·96756	0·25263	39	0·96748	0·25291	40	0·96741	0·25319	1
2		1·93541	0·50413		1·93527	0 50470		1·93512	0·50526		1·93497	0·50582		1·93483	0·50639	2
3		2·90312	0·75620		2·90290	0·75705		2·90268	0·75789		2·90246	0·75874		2·90224	0·75958	3
4		3·87083	1·00827		3·87054	1·00940		3·87024	1·01052		3·86995	1·01165		3·86966	1·01278	4
5		4·83854	1·26034		4·83817	1·26175		4·83781	1·26316		4·83744	1·26456		4·83707	1·26597	5
6		5·80625	1·51241		5·80581	1·51410		5.80537	1·51579		5·80493	1·51748		5·80449	1·51917	6
7		6·77396	1·76448		6·77345	1·76645		6·77293	1·76842		6·77242	1·77039		6·77190	1·77236	7
8		7·74167	2·01655		7·74108	2·01880		7·74049	2·02105		7·73991	2·02330		7·73932	2·02556	8
9		8·70938	2·26862		8·70872	2·27115		8·70806	2·27369		8·70739	2·27622		8·70673	2·27875	9
10	24	9·67709	2·52069	23	9·67635	2·52350	22	9·67562	2·52632	21	9·67488	2·52913	20	9 67415	2·53195	10
1	46	0·96697	0·25488	47	0·96689	0·25516	48	0 96682	0·25544	49	0·96674	0·25572	50	0·96667	0·25600	1
2		1·93394	0·50976		1·93379	0·51032		1·93364	0·51089		1·93349	0·51145		1·93334	0·51201	2
3		2·90091	0·76464		2·90069	0·76549		2·90047	0·76633		2·90024	0·76718		2·90002	0·76802	3
4		3·86788	1·01953		3·86759	1·02065		3·86729	1·02178		3·86699	1·02290		3·86669	1·02403	4
5		4·83485	1·27441		4·83448	1·27582		4·83411	1·27722		4·83374	1·27863		4·83337	1·28004	5
6		5·80183	1·52929		5·80138	1·53098		5·80094	1·53267		5·80049	1·53436		5·80004	1 53604	6
7		6·76880	1·78418		6·76828	1·78615		6·76776	1·78812		6·76724	1·79008		6·76672	1·79205	7
8		7·73577	2·03906		7·73518	2·04131		7·73458	2·04356		7·73399	2·04581		7·73339	2·04806	8
9		8·70274	2·29394		8·70207	2·29648		8·70141	2·29901		8·70074	2·30154		8·70007	2·30407	9
10	14	9·66971	2·54883	13	9·66897	2·55164	12	9·66823	2·55445	11	9·66749	2 55727	10	9·66674	2·56008	10
1	56	0·96622	0·25769	57	0·96615	0·25797	58	0·96607	0·25825	59	0·96600	0·25853	60	0·96592	0·25881	1
2		1·93245	0·51539		1·93230	0·51595		1·93215	0·51651		1·93200	0·51707		1·93185	0·51763	2
3		2·89867	0·77308		2·89845	0·77392		2·89822	0·77477		2·89800	0·77561		2·89777	0·77645	3
4		3·86490	1·03078		3·86460	1·03190		3·86430	1·03302		3·86400	1·03415		3·86370	1·03527	4
5		4·83113	1·28847		4·83075	1·28988		4·83038	1·29128		4·83000	1·29269		4·82962	1·29409	5
6		5·79735	1·54617		5·79690	1·54785		5·79645	1·54954		5·79600	1·55122		5·79555	1·55291	6
7		6·76358	1·80386		6·76305	1·80583		6·76253	1·80779		6·76200	1·80976		6·76148	1·81173	7
8		7·72981	2·06156		7·72921	2·06380		7·72860	2·06605		7·72800	2·06830		7·72740	2·07055	8
9		8·69603	2·31925		8·69536	2·32178		8 69468	2·32431		8·69400	2·32684		8·69333	2·32937	9
10	04	9·66226	2·57695	03	9·66151	2·57976	02	9·66076	2·58257	01	9·66001	2·58538	00	9·65925	2·58819	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

2

6

75 DEG

DEG. 15.

D.	M.	Lat.	Dep	M.	Lat.	Dep.	M	Lat.	Dep.	M	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·96585	0·25910	02	0·96577	0 25938	03	0·96570	0·25966	04	0·96562	0 25994	05	0 96554	0·26022	1
2		1·93170	0·51820		1·93155	0·51876		1·93140	0·51932		1·93124	0·51988		1·93109	0·52044	2
3		2·89755	0·77730		2·89732	0·77814		2·89710	0·77898		2·89687	0·77982		2·89664	0·78067	3
4		3·86340	1·03640		3·86310	1·03752		3·86280	1·03864		3·86249	1·03977		3·86219	1·04089	4
5		4·82925	1·29550		4·82887	1·29690		4·82850	1·29831		4·82812	1·29971		4·82774	1·30111	5
6		5·79510	1·55460		5·79465	1·55628		5·79420	1·55797		5·79374	1·55965		5 79329	1·56134	6
7		6·76095	1·81370		6·76042	1·81566		6·75990	1·81763		6·75936	1·81959		6·75883	1·82156	7
8		7·72680	2·07280		7·72620	2·07504		7·72560	2·07729		7·72499	2·07954		7·72438	2·08178	8
9		8·69265	2·33190		8·69197	2·33442		8·69130	2·33695		8·69061	2·33948		8·68993	2·34201	9
10	59	9·65850	2·59100	58	9·65775	2·59381	57	9·65700	2·59662	56	9·65624	2·59942	55	9·65548	2·60223	10
1	11	0·96509	0·26190	12	0·96501	0·26218	13	0·96494	0·26247	14	0·96486	0·26275	15	0·96478	0·26303	1
2		1·93018	0·52381		1·93003	0·52437		1·92988	0·52494		1·92972	0·52550		1·92957	0·52606	2
3		2·89527	0·78572		2·89504	0·78656		2·89482	0·78741		2·89459	0·78825		2·89436	0·78909	3
4		3·86037	1·04763		3·86006	1·04875		3·85976	1·04988		3·85945	1·05100		3·85914	1·05212	4
5		4 82546	1·30954		4·82508	1·31094		4·82470	1·31235		4·82431	1·31375		4·82393	1·31515	5
6		5·79055	1·57145		5·79009	1·57313		5·78964	1·57482		5·78918	1·57650		5·78872	1·57818	6
7		6·75564	1·83335		6·75511	1·83532		6·75458	1·83729		6·75404	1·83925		6·75351	1·84121	7
8		7 72074	2·09526		7·72013	2·09751		7·71952	2·09976		7·71891	2·10200		7·71829	2·10424	8
9		8·68583	2·35717		8·68514	2·35970		8·68446	2·36223		8·68377	2·36475		8·68308	2·36728	9
10	49	9·65092	2·61908	48	9·65016	2·62189	47	9·64940	2·62470	46	9·64863	2·62750	45	9·64787	2·63031	10
1	21	0·96432	0·26471	22	0·96425	0·26499	23	0·96417	0·26527	24	0·96409	0·26555	25	0·96401	0·26583	1
2		1·92865	0·52942		1·92850	0·52999		1·92834	0·53055		1·92819	0·53111		1·92803	0·53167	2
3		2·89298	0·79414		2·89275	0·79498		2·89251	0·79582		2·89228	0·79666		2·89205	0·79750	3
4		3·85730	1·05885		3·85700	1·05998		3·85669	1·06110		3·85638	1·06222		3·85607	1·06334	4
5		4·82163	1·32357		4·82125	1·32497		4·82086	1·32637		4·82047	1·32778		4·82009	1·32918	5
6		5·78596	1·58828		5·78550	1·58997		5·78503	1·59165		5·78457	1·59333		5·78410	1·59501	6
7		6·75028	1·85300		6·74975	1·85496		6·74920	1·85692		6·74866	1·85889		6·74812	1·86085	7
8		7·71461	2·11771		7·71400	2·11996		7·71338	2·12220		7·71276	2·12444		7·71214	2·12669	8
9		8·67894	2·38243		8·67825	2·38495		8·67755	2·38748		8·67685	2·39000		8·67616	2·39252	9
10	39	9·64326	2·64714	38	9·64250	2·64995	37	9·64172	2·65275	36	9·64095	2·65556	35	9·64018	2·65836	10
1	31	0·96355	0·26751	32	0·96347	0·26779	33	0·96339	0·26807	34	0·96331	0·26835	35	0·96324	0·26864	1
2		1·92710	0·53503		1·92694	0·53559		1·92679	0 53615		1·92663	0·53671		1·92648	0·53728	2
3		2·89065	0·80255		2·89042	0 80339		2·89019	0·80423		2·88995	0·80507		2·88972	0·80592	3
4		3·85421	1·07007		3·85389	1·07119		3·85358	1·07231		3·85327	1·07343		3·85296	1·07456	4
5		4·81776	1·33759		4·81737	1·33899		4·81698	1·34039		4·81659	1·34179		4·81620	1·34320	5
6		5·78131	1·60511		5·78084	1·60679		5·78038	1·60847		5·77991	1·61015		5·77944	1·61184	6
7		6·74486	1·87263		6·74432	1·87459		6·74377	1·87655		6·74323	1·87851		6·74268	1·88048	7
8		7·70842	2·14014		7·70779	2·14239		7·70717	2·14463		7·70655	2·14687		7·70592	2·14912	8
9		8·67197	2·40766		8·67127	2·41019		8·67057	2·41271		8·66987	2·41523		8·66916	2·41776	9
10	29	9·63552	2·67518	28	9·63474	2·67799	27	9·63397	2·68079	26	9·63319	2·68359	25	9·63240	2·68640	10
1	41	0·96277	0·27032	42	0·96269	0·27060	43	0·96261	0·27088	44	0·96253	0·27116	45	0·96245	0·27144	1
2		1·92554	0·54064		1·92538	0·54120		1·92522	0·54176		1·92506	0·54232		1·92491	0·54288	2
3		2·88831	0 81096		2·88807	0·81180		2·88783	0·81264		2·88760	0·81348		2·88736	0·81432	3
4		3·85108	1·08128		3·85076	1·08240		3·85045	1·08352		3·85013	1·08464		3 84982	1·08576	4
5		4·81385	1·35160		4·81345	1·35300		4·81306	1·35440		4·81267	1·35580		4·81227	1·35720	5
6		5·77662	1·62192		5·77615	1·62360		5·77567	1·62528		5·77520	1·62696		5·77473	1·62864	6
7		6·73939	1·89224		6·73884	1·89420		6·73829	1·89616		6·73773	1·89812		6·73718	1·90008	7
8		7·70216	2·16256		7·70153	2·16480		7·70090	2·16704		7·70027	2·16928		7·69964	2·17152	8
9		8·66493	2·43288		8·66422	2·43540		8·66351	2 43792		8·66280	2·44044		8·66209	2·44296	9
10	19	9·62770	2·70320	18	9·62691	2·70600	17	9·62613	2·70880	16	9·62534	2·71160	15	9·62455	2·71440	10
1	51	0·96198	0·27312	52	0·96190	0·27339	53	0·96182	0·27367	54	0·96174	0 27395	55	0·96166	0·27423	1
2		1·92396	0·54624		1·92380	0·54679		1·92364	0·54735		1·92348	0·54791		1·92332	0·54847	2
3		2·88594	0·81936		2·88570	0·82019		2·88546	0·82103		2·88522	0·82187		2·88498	0·82271	3
4		3·84792	1·09248		3·84760	1·09359		3·84728	1·09471		3·84696	1·09583		3·84664	1·09695	4
5		4·80990	1·36560		4·80950	1·36699		4·80910	1·36839		4·80870	1·36979		4·80830	1·37119	5
6		5 77188	1·63872		5·77140	1·64039		5·77092	1·64207		5·77044	1·64375		5·76996	1·64543	6
7		6·73386	1·91184		6·73330	1·91379		6·73274	1·91575		6·73218	1·91771		6·73163	1·91967	7
8		7·69584	2·18496		7·69520	2·18719		7·69456	2·18943		7·69393	2·19167		7·69329	2·19391	8
9		8·65782	2·45808		8·65710	2·46059		8·65638	2·46311		8·65567	2·46563		8·65495	2·46815	9
10	09	9·61980	2·73120	08	9·61900	2·73399	07	9·61821	2·73679	06	9·61741	2·73959	05	9·61661	2·74239	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 74.

D.	M	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·96547	0·26050	07	0·96539	0·26078	08	0·96532	0·26106	09	0·96524	0·26134	10	0·96516	0·26162	1
2		1·93094	0·52100		1·93079	0·52157		1·93064	0·52213		1·93048	0·52269		1·93033	0·52325	2
3		2·89641	0·78151		2·89619	0·78235		2·89596	0·78319		2·89573	0·78404		2·89550	0·78488	3
4		3·86189	1·04201		3·86158	1·04314		3·86128	1·04426		3·86097	1·04538		3 86067	1·04651	4
5		4·82736	1·30252		4·82698	1·30392		4·82660	1·30533		4·82622	1·30673		4·82584	1·30813	5
6		5·79283	1·56302		5·79238	1·56471		5·79192	1·56639		5·79146	1·56808		5·79101	1·56976	6
7		6·75830	1·82353		6·75777	1·82549		6·75724	1·82746		6·75671	1·82942		6·75618	1·83139	7
8		7·72378	2·08403		7·72317	2·08628		7·72256	2·08852		7·72195	2·09077		7·72135	2·09302	8
9		8·68925	2·34454		8·68857	2·34706		8·68788	2·34959		8·68720	2·35212		8·68652	2·35464	9
10	54	9·65472	2·60504	53	9·65396	2·60785	52	9·65321	2·61066	51	9·65245	2·61347	50	9·65169	2·61627	10
1	16	0·96471	0·26331	17	0·96463	0·26359	18	0·96455	0·26387	19	0·96448	0·26415	20	0·96440	0·26443	1
2		1·92942	0·52662		1·92926	0·52718		1·92911	0·52774		1·92896	0·52830		1·92880	0·52886	2
3		2·89413	0·78993		2·89390	0·79077		2·89367	0·79161		2·89344	0·79246		2·89321	0·79330	3
4		3·85884	1·05324		3·85853	1·05437		3·85822	1·05549		3·85792	1·05661		3·85761	1·05773	4
5		4·82355	1·31655		4·82317	1·31796		4·82278	1·31936		4·82240	1·32076		4·82201	1·32217	5
6		5·78826	1·57987		5·78780	1·58155		5·78734	1·58323		5·78688	1·58492		5·78642	1·58660	6
7		6·75297	1·84318		6·75243	1·84514		6·75190	1·84711		6·75136	1·84907		6·75082	1·85103	7
8		7·71768	2·10649		7·71707	2·10874		7·71645	2·11098		7·71584	2·11322		7·71522	2·11547	8
9		8·68239	2·36980		8·68170	2·37233		8·68101	2·37485		8·68032	2·37738		8·67963	2·37990	9
10	44	9·64710	2·63311	43	9·64634	2·63592	42	9·64557	2·63873	41	9·64480	2 64153	40	9·64403	2·64434	10
1	26	0·96394	0·26611	27	0·96386	0·26639	28	0·96378	0·26667	29	0·96370	0·26695	30	0·96363	0·26723	1
2		1·92788	0·53223		1·92772	0·53279		1·92757	0·53335		1·92741	0·53391		1·92726	0·53447	2
3		2·89182	0·79835		2·89158	0·79919		2·89135	0·80003		2·89112	0·80087		2·89089	0·80171	3
4		3·85576	1·06446		3·85545	1·06558		3·85514	1 06671		3·85483	1·06783		3·85452	1·06895	4
5		4·81970	1·33058		4·81931	1·33198		4·81892	1·33338		4·81854	1·33479		4·81815	1·33619	5
6		5·78364	1·59670		5·78317	1·59838		5·78271	1·60006		5·78224	1·60174		5·78178	1 60343	6
7		6·74758	1·86281		6·74704	1·86478		6·74650	1·86674		6·74595	1·86870		6·74541	1·87066	7
8		7·71152	2·12893		7·71090	2·13117		7·71028	2·13342		7·70966	2·13566		7·70904	2·13790	8
9		8·67546	2·39505		8·67476	2·39757		8·67407	2·40009		8·67337	2·40262		8·67267	2·40514	9
10	34	9·63940	2·66117	33	9·63863	2·66397	32	9·63785	2·66677	31	9·63708	2·66958	30	9·63630	2·67238	10
1	36	0·96316	0·26892	37	0·96308	0·26920	38	0·96300	0·26948	39	0·96292	0·26976	40	0·96284	0·27004	1
2		1·92632	0·53784		1 92616	0·53840		1·92601	0·53896		1·92585	0·53952		1·92569	0·54008	2
3		2·88948	0·80676		2·88925	0·80760		2·88901	0·80844		2·88878	0·80928		2·88854	0·81012	3
4		3·85265	1·07568		3·85233	1·07680		3·85202	1·07792		3·85171	1·07904		3·85139	1·08016	4
5		4·81581	1·34460		4·81542	1·34600		4·81503	1·34740		4·81463	1·34880		4·81424	1·35020	5
6		5·77897	1 61352		5·77850	1·61520		5·77803	1·61688		5·77756	1·61856		5·77709	1·62024	6
7		6·74213	1·88244		6·74159	1·88440		6·74104	1·88636		6·74049	1·88832		6·73994	1·89028	7
8		7·70530	2·15136		7·70467	2·15360		7·70404	2·15584		7·70342	2·15808		7·70279	2·16032	8
9		8·66846	2·42028		8·66775	2·42280		8·66705	2·42532		8·66634	2·42784		8·66564	2·43036	9
10	24	9·63162	2·68920	23	9·63084	2·69200	22	9·63006	2·69480	21	9·62927	2·69760	20	9·62849	2·70040	10
1	46	0·96237	0·27172	47	0·96229	0·27200	48	0·96221	0·27228	49	0·96213	0·27256	50	0·96205	0·27284	1
2		1·92475	0·54344		1·92459	0·54400		1·92443	0·54456		1·92427	0·54512		1·92411	0·54568	2
3		2·88712	0·81516		2·88689	0·81600		2·88665	0·81684		2·88641	0·81768		2·88617	0·81852	3
4		3·84950	1·08688		3·84918	1·08800		3·84887	1·08912		3·84855	1·09024		3·84823	1·09136	4
5		4·81188	1 35860		4·81148	1·36000		4·81109	1·36140		4·81069	1·36280		4·81029	1·36420	5
6		5·77425	1·63032		5·77378	1·63200		5·77330	1·63368		5·77283	1·63536		5·77235	1·63704	6
7		6·73663	1·90204		6·73608	1·90400		6·73552	1·90596		6·73497	1·90792		6·73441	1·90988	7
8		7·69900	2·17376		7·69837	2·17600		7·69774	2·17824		7·69710	2·18048		7·69647	2·18272	8
9		8·66138	2·44548		8·66067	2·44800		8·65996	2·45052		8·65924	2·45304		8·65853	2·45556	9
10	14	9·62376	2·71720	13	9·62297	2·72000	12	9·62218	2·72230	11	9·62138	2·72560	10	9·62059	2·72840	10
1	56	0·96158	0·27451	57	0·96150	0·27479	58	0·96142	0·27507	59	0·96134	0·27535	60	0·96126	0·27563	1
2		1·92316	0·54903		1·92300	0·54959		1·92284	0·55015		1·92268	0·55071		1·92252	0·55127	2
3		2·88474	0·82355		2·88450	0·82439		2·88426	0·82523		2·88402	0·82607		2·88378	0·82691	3
4		3·84632	1·09807		3·84600	1·09919		3·84568	1·10031		3·84536	1·10143		3·84504	1·10254	4
5		4·80790	1·37259		4·80751	1·37399		4·80711	1·37539		4·80670	1·37678		4·80630	1·37818	5
6		5·76949	1·64711		5·76901	1·64879		5·76853	1·65046		5·76805	1·65214		5·76757	1·65382	6
7		6·73107	1·92163		6·73051	1·92358		6·72995	1·92554		6·72939	1·92750		6·72883	1·92946	7
8		7·69265	2·19614		7 69201	2·19838		7·69137	2·20062		7·69073	2·20286		7·69009	2·20509	8
9		8·65423	2·47066		8·65351	2·47318		8·65279	2·47570		8·65207	2·47821		8·65135	2·48073	9
10	04	9·61581	2·74518	03	9·61502	2·74798	02	9·61422	2·75078	01	9·61341	2·75357	00	9 61261	2·75637	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

74 DEG.

A

D.	M.	Lat	Dep	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·96118	0·27591	02	0·96110	0·27619	03	0·96102	0·27647	04	0·96094	0·27675	05	0·96086	0·27703	1
2		1·92236	0·55183		1·92220	0·55239		1·92204	0·55295		1·92188	0·55351		1·92172	0·55407	2
3		2·88354	0·82775		2·88330	0·82858		2·88306	0·82942		2·88282	0·83026		2·88258	0·83110	3
4		3·84472	1·10366		3·84440	1·10478		3·84408	1·10590		3·84376	1·10702		3·84344	1·10814	4
5		4·80590	1·37958		4·80550	1·38098		4·80510	1·38238		4·80470	1·38377		4·80430	1·38517	5
6		5·76708	1·65550		5·76660	1·65717		5·76612	1·65885		5·76564	1·66053		5·76516	1·66221	6
7		6·72827	1·93141		6·72770	1·93337		6·72714	1·93533		6·72658	1·93728		6·72602	1·93924	7
8		7·68945	2·20733		7·68880	2·20957		7·68816	2·21180		7·68752	2·21404		7·68688	2·21628	8
9		8·65063	2·48325		8·64991	2·48576		8 64918	2·48828		8·64846	2·49080		8·64774	2·49331	9
10	59	9·61181	2·75917	58	9·61101	2·76196	57	9·61020	2·76476	56	9·60940	2·76755	55	9·60860	2·77035	10
1	11	0·96037	0·27871	12	0·96029	0·27899	13	0·96021	0·27927	14	0·96013	0·27955	15	0·96005	0·27982	1
2		1·92074	0·55742		1·92058	0·55798		1·92042	0·55854		1·92026	0·55910		1·92010	0·55965	2
3		2·88112	0·83613		2·88088	0·83697		2·88063	0·83781		2·88039	0·83865		2·88015	0·83948	3
4		3·84149	1·11484		3·84117	1·11596		3·84085	1·11708		3·84052	1·11820		3·84020	1·11931	4
5		4·80187	1·39355		4·80146	1·39495		4·80106	1·39635		4·80065	1·39775		4·80025	1·39914	5
6		5·76224	1·67227		5·76176	1·67394		5·76127	1·67562		5·76078	1·67730		5·76030	1·67897	6
7		6·72262	1·95098		6·72205	1·95293		6·72148	1·95489		6·72091	1·95685		6·72035	1·95880	7
8		7·68299	2·22969		7·68234	2·23192		7·68170	2·23416		7·68104	2·23640		7·68040	2·23863	8
9		8·64337	2·50840		8·64264	2·51091		8·64191	2·51343		8·64118	2·51595		8·64045	2·51846	9
10	49	9·60374	2 78711	48	9·60293	2·78991	47	9·60212	2·79270	46	9·60131	2·79550	45	9·60050	2·79829	10
1	21	0·95956	0·28150	22	0·95947	0 28178	23	0·95939	0·28206	24	0·95931	0·28234	25	0·95923	0·28262	1
2		1·91912	0·56300		1·91895	0·56356		1·91879	0·56412		1·91862	0·56468		1·91846	0·56524	2
3		2·87868	0·84451		2·87843	0·84534		2·87818	0·84618		2·87794	0·84702		2·87769	0·84786	3
4		3·83824	1·12601		3·83791	1·12713		3·83758	1·12824		3·83725	1·12936		3·83692	1·13048	4
5		4·79780	1·40752		4·79739	1·40891		4·79698	1·41031		4·79657	1·41170		4·79615	1·41310	5
6		5·75736	1·68902		5·75686	1·69069		5·75637	1·69237		5·75588	1·69404		5·75539	1·69572	6
7		6·71692	1·97052		6·71634	1·97248		6·71577	1·97443		6·71519	1·97639		6·71462	1·97834	7
8		7·67648	2·25203		7·67582	2·25426		7·67516	2·25649		7·67451	2·25873		7·67385	2·26096	8
9		8·63604	2·53353		8·63530	2·53604		8·63456	2·53856		8·63382	2·54107		8·63308	2·54358	9
10	39	9·59560	2·81504	38	9·59478	2·81783	37	9·59396	2·82062	36	9·59314	2·82341	35	9·59231	2·82620	10
1	31	0·95873	0·28429	32	0·95865	0·28457	33	0·95857	0·28485	34	0·95848	0·28513	35	0·95840	0·28541	1
2		1·91747	0·56858		1·91730	0·56914		1·91714	0·56970		1·91697	0·57026		1·91681	0·57082	2
3		2·87621	0·85288		2·87596	0·85371		2·87571	0·85455		2·87546	0·85539		2·87521	0·85623	3
4		3·83494	1·13717		3·83461	1·13829		3·83428	1·13940		3·83395	1·14052		3·83362	1·14164	4
5		4·79368	1·42147		4·79327	1·42286		4·79285	1·42426		4·79244	1·42565		4·79202	1·42705	5
6		5·75242	1·70576		5·75192	1·70743		5·75142	1·70911		5·75093	1·71078		5·75043	1·71246	6
7		6·71115	1·99005		6·71058	1·99201		6·71000	1·99396		6·70942	1·99591		6·70883	1·99787	7
8		7·66989	2·27435		7·66923	2·27658		7·66857	2·27881		7·66790	2·28104		7·66724	2·28328	8
9		8·62863	2·55864		8 62788	2·56115		8·62714	2·56366		8·62639	2·56617		8·62565	2·56869	9
10	29	9·58737	2·84294	28	9·58654	2·84573	27	9·58571	2·84852	26	9·58488	2·85130	25	9·58405	2·85410	10
1	41	0·95790	0·28708	42	0·95782	0·28736	43	0·95773	0·28763	44	0·95765	0·28791	45	0·95757	0·28819	1
2		1·91581	0·57416		1.91564	0·57472		1·91547	0·57527		1·91531	0·57583		1·91514	0·57639	2
3		2·87371	0·86124		2·87346	0·86208		2·87321	0·86291		2·87296	0·86375		2·87271	0·86458	3
4		3·83162	1·14832		3·83129	1·14944		3·83095	1·15055		3·83062	1·15167		3·83028	1·15278	4
5		4·78953	1·43541		4·78911	1·43680		4·78869	1·43819		4·78827	1·43958		4·78785	1·44098	5
6		5·74743	1·72249		5·74693	1·72416		5·74643	1·72583		5·74593	1·72750		5·74542	1·72917	6
7		6·70534	2·00957		6·70475	2·01152		6·70417	2·01347		6·70358	2·01542		6·70299	2·01737	7
8		7·66324	2·29665		7·66258	2·29888		7·66191	2·30111		7·66124	2·30334		7·66057	2·30557	8
9		8·62115	2·58373		8·62040	2·58624		8·61965	2·58875		8·61889	2·59125		8·61814	2·59376	9
10	19	9·57906	2·87082	18	9·57822	2·87360	17	9·57739	2·87639	16	9·57655	2·87917	15	9·57571	2·88196	10
1	51	0·95706	0·28986	52	0 95698	0·29014	53	0·95689	0·29042	54	0·95681	0·29070	55	0·95672	0·29098	1
2		1·91413	0·57973		1·91396	0·58029		1·91379	0·58084		1·91362	0·58140		1·91345	0·58196	2
3		2·87120	0·86960		2·87094	0·87043		2·87069	0·87127		2·87044	0·87210		2·87018	0·87294	3
4		3·82826	1·15946		3·82793	1·16058		3·82759	1·16169		3·82725	1·16280		3·82691	1·16392	4
5		4·78533	1·44933		4·78491	1·45072		4·78449	1·45212		4·78406	1·45351		4·78364	1·45490	5
6		5·74240	1·73920		5·74189	1·74087		5·74138	1·74254		5·74088	1·74421		5·74037	1·74588	6
7		6·69946	2·02906		6·69887	2·03101		6·69828	2·03296		6·69769	2·03491		6·69710	2·03686	7
8		7·65653	2·31893		7·65586	2·32116		7·65518	2·32339		7·65450	2·32561		7·65383	2·32784	8
9		8·61360	2·60880		8·61284	2·61130		8·61208	2·61381		8·61132	2·61631		8·61056	2·61882	9
10	09	9·57067	2·89867	08	9·56982	2·90145	07	9·56898	2·90424	06	9·56813	2·90702	05	9·56729	2·90980	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

16 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·96077	0·27731	07	0·96069	0·27759	08	0·96061	0·27787	09	0·96053	0·27815	10	0·96045	0·27843	1
2		1·92155	0·55462		1·92139	0·55518		1·92123	0·55574		1·92107	0·55630		1·92091	0·55686	2
3		2·88233	0·83194		2·88209	0·83278		2·88185	0·83362		2·88161	0·83445		2·88136	0·83529	3
4		3·84311	1·10925		3·84279	1·11037		3·84247	1·11149		3·84214	1·11261		3·84182	1·11372	4
5		4·80389	1·38657		4·80349	1·38797		4·80308	1·38936		4·80268	1·39076		4·80227	1·39216	5
6		5·76467	1·66388		5·76419	1·66556		5·76370	1·66724		5·76322	1·66891		5·76273	1·67059	6
7		6·72545	1·94120		6·72488	1·94315		6·72432	1·94511		6·72375	1·94707		6·72319	1·94902	7
8		7·68623	2·21851		7·68558	2·22075		7·68494	2·22298		7·68429	2·22522		7·68364	2·22745	8
9		8·64701	2·49583		8·64628	2·49834		8·64555	2·50086		8·64483	2·50337		8·64410	2·50589	9
10	54	9·60779	2·77314	53	9·60698	2·77594	52	9·60617	2·77873	51	9·60536	2·78153	50	9·60455	2·78432	10
1	16	0·95996	0·28010	17	0·95988	0·28038	18	0·95980	0·28066	19	0·95972	0·28094	20	0·95964	0·28122	1
2		1·91993	0·56021		1·91977	0·56077		1·91961	0·56133		1·91944	0·56189		1·91928	0·56245	2
3		2·87990	0·84032		2·87966	0·84116		2·87941	0·84200		2·87917	0·84283		2·87892	0·84367	3
4		3·83987	1·12043		3·83954	1·12155		3·83922	1·12266		3·83889	1·12378		3·83856	1·12490	4
5		4·79984	1·40054		4·79943	1·40193		4·79902	1·40333		4·79861	1·40473		4·79820	1·40612	5
6		5·75981	1·68064		5·75932	1·68232		5·75883	1·68400		5·75834	1·68567		5·75785	1·68735	6
7		6·71977	1·96075		6·71920	1·96271		6·71863	1·96466		6·71806	1·96662		6·71749	1·96857	7
8		7·67974	2·24086		7·67909	2·24310		7·67844	2·24533		7·67778	2·24756		7·67713	2·24980	8
9		8·63971	2·52097		8·63898	2·52348		8·63824	2·52600		8·63751	2·52851		8·63677	2·53102	9
10	44	9·59968	2·80108	43	9·59887	2·80387	42	9·59805	2·80666	41	9·59723	2·80946	40	9·59641	2·81225	10
1	26	0·95915	0·28290	27	0·95906	0·28317	28	0·95898	0·28345	29	0·95890	0·28373	30	0·95882	0·28401	1
2		1·91830	0·56580		1·91813	0·56635		1·91796	0·56691		1·91780	0·56747		1·91764	0·56803	2
3		2·87745	0·84870		2·87720	0·84953		2·87695	0·85037		2·87670	0·85120		2·87646	0·85204	3
4		3·83660	1·13160		3·83626	1·13271		3·83593	1·13383		3·83560	1·13494		3·83528	1·13606	4
5		4·79575	1·41450		4·79533	1·41589		4·79492	1·41728		4·79451	1·41868		4·79410	1·42007	5
6		5·75490	1·69740		5·75440	1·69907		5·75390	1·70074		5·75341	1·70241		5·75292	1·70409	6
7		6·71405	1·98030		6·71347	1·98224		6·71289	1·98420		6·71231	1·98615		6·71174	1·98810	7
8		7·67320	2·26320		7·67253	2·26542		7·67187	2·26766		7·67121	2·26989		7·67056	2·27212	8
9		8·63235	2·54610		8·63160	2·54860		8·63086	2·55111		8·63012	2·55362		8·62938	2·55613	9
10	34	9·59150	2·82900	33	9·59067	2·83178	32	9·58984	2·83457	31	9·58902	2·83736	30	9·58820	2·84015	10
1	36	0·95832	0·28568	37	0·95823	0·28596	38	0·95815	0·28624	39	0·95807	0·28652	40	0·95799	0·28680	1
2		1·91664	0·57137		1·91647	0·57193		1·91631	0·57249		1·91614	0·57304		1·91598	0·57360	2
3		2·87496	0·85706		2·87471	0·85790		2·87446	0·85873		2·87421	0·85957		2·87397	0·86040	3
4		3·83329	1·14275		3·83295	1·14386		3·83262	1·14498		3·83229	1·14609		3·83196	1·14721	4
5		4·79161	1·42844		4·79119	1·42983		4·79078	1·43122		4·79036	1·43262		4·78995	1·43401	5
6		5·74993	1·71413		5·74943	1·71580		5·74893	1·71747		5·74843	1·71914		5·74794	1·72081	6
7		6·70825	1·99981		6·70767	2·00176		6·70709	2·00372		6·70651	2·00567		6·70593	2·00762	7
8		7·66658	2·28550		7·66591	2·28773		7·66524	2·28996		7·66458	2·29219		7·66392	2·29442	8
9		8·62490	2·57119		8·62415	2·57370		8·62340	2·57621		8·62265	2·57872		8·62191	2·58122	9
10	24	9·58322	2·85688	23	9·58239	2·85967	22	9·58156	2·86245	21	9·58073	2·86524	20	9·57990	2·86803	10
1	46	0·95748	0·28847	47	0·95740	0·28875	48	0·95732	0·28903	49	0·95723	0·28931	50	0·95715	0·28958	1
2		1·91497	0·57694		1·91480	0·57750		1·91464	0·57806		1·91447	0·57862		1·91430	0·57917	2
3		2·87246	0·86542		2·87221	0·86625		2·87196	0·86709		2·87170	0·86793		2·87145	0·86876	3
4		3·82995	1·15389		3·82961	1·15501		3·82928	1·15612		3·82894	1·15724		3·82860	1·15835	4
5		4·78743	1·44237		4·78701	1·44376		4·78660	1·44515		4·78617	1·44655		4·78575	1·44794	5
6		5·74492	1·73084		5·74442	1·73251		5·74392	1·73419		5·74341	1·73586		5·74290	1·73753	6
7		6·70241	2·01932		6·70182	2·02127		6·70124	2·02322		6·70064	2·02517		6·70005	2·02712	7
8		7·65990	2·30779		7·65922	2·31002		7·65856	2·31225		7·65788	2·31448		7·65720	2·31670	8
9		8·61738	2·59627		8·61663	2·59877		8·61588	2·60128		8·61511	2·60379		8·61436	2·60629	9
10	14	9·57487	2·88474	13	9·57403	2·88753	12	9·57320	2·89031	11	9·57235	2·89310	10	9·57151	2·89588	10
1	56	0·95664	0·29125	57	0·95656	0·29153	58	0·95647	0·29181	59	0·95639	0·29209	60	0·95630	0·29237	1
2		1·91328	0·58251		1·91312	0·58307		1·91294	0·58363		1·91278	0·58418		1·91260	0·58474	2
3		2·86993	0·87377		2·86968	0·87461		2·86942	0·87544		2·86917	0·87628		2·86891	0·87711	3
4		3·82657	1·16503		3·82624	1·16614		3·82589	1·16726		3·82556	1·16837		3·82521	1·16948	4
5		4·78322	1·45629		4·78280	1·45768		4·78237	1·45907		4·78195	1·46046		4·78152	1·46185	5
6		5·73986	1·74755		5·73936	1·74922		5·73884	1·75089		5·73834	1·75256		5·73782	1·75423	6
7		6·69651	2·03881		6·69592	2·04075		6·69532	2·04270		6·69473	2·04465		6·69413	2·04660	7
8		7·65315	2·33007		7·65248	2·33229		7·65179	2·33452		7·65112	2·33674		7·65043	2·33897	8
9		8·60979	2·62132		8·60904	2·62383		8·60827	2·62633		8·60751	2·62884		8·60674	2·63134	9
10	04	9·56644	2·91258	03	9·56560	2·91537	02	9·56474	2·91815	01	9·56390	2·92093	00	9·56304	2·92371	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

73 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·95622	0·29265	02	0·95613	0·29292	03	0·95604	0·29320	04	0·95596	0·29348	05	0·95587	0·29376	1
2		1·91244	0·58530		1·91226	0·58585		1·91209	0·58641		1·91192	0·58696		1·91175	0·58752	2
3		2·86866	0·87795		2·86840	0·87878		2·86814	0·87961		2·86789	0·88045		2·86763	0·88128	3
4		3·82488	1·17060		3·82453	1·17171		3·82419	1·17282		3·82385	1·17393		3·82351	1·17504	4
5		4·78110	1·46325		4·78067	1·46464		4·78024	1·46603		4·77982	1·46742		4·77939	1·46881	5
6		5·73732	1·75590		5·73680	1·75756		5·73629	1·75923		5·73578	1·76090		5·73527	1·76257	6
7		6·69354	2·04855		6·69294	2·05049		6·69234	2·05244		6·69174	2·05438		6·69114	2·05633	7
8		7·64976	2·34120		7·64907	2·34342		7·64839	2·34564		7·64771	2·34787		7·64702	2·35009	8
9		8·60598	2·63385		8·60521	2·63635		8·60444	2·63885		8·60367	2·64135		8·60290	2·64386	9
10	59	9·56220	2·92650	58	9·56134	2·92928	57	9·56049	2·93206	56	9·55964	2·93484	55	9·55878	2·93762	10
1	11	0·95536	0·29543	12	0·95527	0·29570	13	0·95519	0·29598	14	0·95510	0·29626	15	0·95502	0·29654	1
2		1·91072	0·59086		1·91055	0·59141		1·91038	0·59197		1·91021	0·59252		1·91004	0·59308	2
3		2·86609	0·88629		2·86583	0·88712		2·86557	0·88795		2·86531	0·88879		2·86506	0·88962	3
4		3·82145	1·18172		3·82111	1·18283		3·82076	1·18394		3·82042	1·18505		3·82008	1·18616	4
5		4·77682	1·47715		4·77639	1·47854		4·77596	1·47992		4·77553	1·48131		4·77510	1·48270	5
6		5·73218	1·77258		5·73167	1·77424		5·73115	1·77591		5·73063	1·77758		5·73012	1·77924	6
7		6·68755	2·06801		6·68694	2·06995		6·68634	2·07190		6·68574	2·07384		6·68514	2·07579	7
8		7·64291	2·36344		7·64222	2·36566		7·64153	2·36788		7·64084	2·37011		7·64016	2·37233	8
9		8·59827	2·65887		8·59750	2·66137		8·59673	2·66387		8·59595	2·66637		8·59518	2·66887	9
10	49	9·55364	2·95430	48	9·55278	2·95708	47	9·55192	2·95986	46	9·55106	2·96263	45	9·55020	2·96541	10
1	21	0·95450	0·29820	22	0·95441	0·29848	23	0·95432	0·29876	24	0·95424	0·29904	25	0·95415	0·29931	1
2		1·90900	0·59641		1·90882	0·59697		1·90865	0·59752		1·90848	0·59808		1·90830	0·59863	2
3		2·86350	0·89462		2·86324	0·89545		2·86298	0·89628		2·86272	0·89712		2·86245	0·89795	3
4		3·81800	1·19283		3·81765	1·19394		3·81730	1·19505		3·81696	1·19616		3·81661	1·19727	4
5		4·77250	1·49104		4·77207	1·49242		4·77163	1·49381		4·77120	1·49520		4·77076	1·49659	5
6		5·72700	1·78924		5·72648	1·79091		5·72596	1·79257		5·72544	1·79424		5·72491	1·79590	6
7		6·68150	2·08745		6·68089	2·08939		6·68029	2·09134		6·67968	2·09328		6·67907	2·09522	7
8		7·63600	2·38566		7·63531	2·38788		7·63461	2·39010		7·63392	2·39232		7·63322	2·39454	8
9		8·59050	2·68387		8·58972	2·68637		8·58894	2·68886		8·58816	2·69136		8·58737	2·69386	9
10	39	9·54501	2·98208	38	9·54414	2·98485	37	9·54327	2·98763	36	9·54240	2·99040	35	9·54153	2·99318	10
1	31	0·95362	0·30098	32	0·95354	0·30126	33	0·95345	0·30153	34	0·95336	0·30181	35	0·95327	0·30209	1
2		1·90725	0·60196		1·90708	0·60252		1·90690	0·60307		1·90673	0·60363		1·90655	0·60418	2
3		2·86088	0·90294		2·86062	0·90378		2·86036	0·90461		2·86009	0·90544		2·85983	0·90627	3
4		3·81451	1·20393		3·81416	1·20504		3·81381	1·20615		3·81346	1·207[illegible]		3·81311	1·20837	4
5		4·76814	1·50491		4·76770	1·50630		4·76727	1·50769		4·76683	1·50907		4·76639	1·51046	5
6		5·72177	1·80589		5·72125	1·80756		5·72072	1·80922		5·72019	1·81089		5·71967	1·81255	6
7		6·67540	2·10688		6·67479	2·10882		6·67417	2·11076		6·67356	2·11270		6·67295	2·11464	7
8		7·62903	2·40786		7·62833	2·41008		7·62763	2·41230		7·62693	2·41452		7·62622	2·41674	8
9		8·58266	2·70884		8·58187	2·71134		8·58108	2·71384		8·58029	2·71633		8·57950	2·71883	9
10	29	9·53629	3·00983	28	9·53541	3·01260	27	9·53454	3·01538	26	9·53366	3·01815	25	9·53278	3·02092	10
1	41	0·95275	0·30375	42	0·95266	0·30403	43	0·95257	0·30431	44	0·95248	0·30458	45	0·95239	0·30486	1
2		1·90550	0·60751		1·90532	0·60806		1·90514	0·60862		1·90496	0·60917		1·90479	0·60972	2
3		2·85825	0·91126		2·85798	0·91209		2·85771	0·91293		2·85745	0·91376		2·85718	0·91459	3
4		3·81100	1·21502		3·81064	1·21613		3·81029	1·21724		3·80993	1·21834		3·80958	1·21945	4
5		4·76375	1·51878		4·76330	1·52016		4·76286	1·52155		4·76242	1·52293		4·76197	1·52432	5
6		5·71650	1·82253		5·71596	1·82419		5·71543	1·82586		5·71490	1·82752		5·71437	1·82918	6
7		6·66925	2·12629		6·66863	2·12823		6·66801	2·13017		6·66739	2·13211		6·66677	2·13405	7
8		7·62200	2·43004		7·62129	2·43226		7·62058	2·43448		7·61987	2·43669		7·61916	2·43891	8
9		8·57475	2·73380		8·57395	2·73629		8·57315	2·73879		8·57235	2·74128		8·57156	2·74377	9
10	19	9·52750	3·03756	18	9·52661	3·04033	17	9·52573	3·04310	16	9·52484	3·04587	15	9·52395	3·04864	10
1	51	0·95186	0·30652	52	0·95177	0·30680	53	0·95168	0·30708	54	0·95159	0·30735	55	0·95150	0·30763	1
2		1·90372	0·61305		1·90354	0·61360		1·90336	0·61416		1·90318	0·61471		1·90301	0·61526	2
3		2·85558	0·91957		2·85531	0·92040		2·85505	0·92124		2·85478	0·92206		2·85451	0·92290	3
4		3·80744	1·22610		3·80709	1·22721		3·80673	1·22832		3·80637	1·22942		3·80602	1·23053	4
5		4·75931	1·53263		4·75886	1·53401		4·75841	1·53540		4·75797	1·53678		4·75752	1·53816	5
6		5·71117	1·83915		5·71063	1·84081		5·71010	1·84248		5·70956	1·84413		5·70903	1·84580	6
7		6·66303	2·14568		6·66241	2·14762		6·66178	2·14956		6·66116	2·15149		6·66053	2·15343	7
8		7·61489	2·45220		7·61418	2·45442		7·61347	2·45664		7·61275	2·45885		7·61204	2·46106	8
9		8·56676	2·75873		8·56595	2·76122		8·56515	2·76372		8·56434	2·76620		8·56354	2·76870	9
10	09	9·51862	3·06526	08	9·51773	3·06803	07	9·51683	3·07080	06	9·51594	3·07356	05	9·51505	3·07633	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat	Dep.	M.	Lat.	Dep.	D.
1	06	0·95579	0·29404	07	0·95570	0·29431	08	0·95562	0·29459	09	0·95553	0·29487	10	0·95545	0·29515	1
2		1·91158	0·58808		1·91141	0·58863		1·91124	0·58919		1·91107	0·58974		1·91090	0·59030	2
3		2·86737	0·88212		2·86712	0·88295		2·86686	0·88378		2·86660	0·88462		2·86635	0·88545	3
4		3·82317	1·17616		3·82282	1·17727		3·82248	1·17838		3·82214	1·17949		3·82180	1·18060	4
5		4·77896	1·47020		4·77853	1·47159		4·77810	1·47298		4·77768	1·47437		4·77725	1·47576	5
6		5·73475	1·76424		5·73424	1·76590		5·73373	1·76757		5·73321	1·76924		5·73270	1·77091	6
7		6·69055	2·05828		6·68995	2·06022		6·68935	2·06217		6·68875	2·06412		6·68815	2·06606	7
8		7·64634	2·35232		7·64565	2·35454		7·64497	2·35677		7·64428	2·35899		7·64360	2·36121	8
9		8·60213	2·64636		8·60136	2·64886		8·60059	2·65136		8·59982	2·65386		8·59905	2·65636	9
10	54	9·55793	2·94040	53	9·55707	2·94318	52	9·55621	2·94596	51	9·55536	2·94874	50	9·55450	2·95152	10
1	16	0·95493	0·29681	17	0·95484	0·29709	18	0·95476	0·29737	19	0·95467	0·29765	20	0·95458	0·29793	1
2		1·90986	0·59363		1·90969	0·59419		1·90952	0·59474		1·90934	0·59530		1·90917	0·59586	2
3		2·86480	0·89045		2·86454	0·89129		2·86428	0·89212		2·86402	0·89295		2·86376	0·89379	3
4		3·81973	1·18727		3·81938	1·18838		3·81904	1·18949		3·81869	1·19061		3·81835	1·19172	4
5		4·77466	1·48409		4·77423	1·48548		4·77380	1·48687		4·77337	1·48826		4·77293	1·48965	5
6		5·72960	1·78091		5·72908	1·78258		5·72856	1·78424		5·72804	1·78591		5·72752	1·78758	6
7		6·68453	2·07773		6·68393	2·07967		6·68332	2·08162		6·68272	2·08356		6·68211	2·08551	7
8		7·63946	2·37455		7·63877	2·37677		7·63808	2·37899		7·63739	2·38122		7·63670	2·38344	8
9		8·59440	2·67137		8·59362	2·67387		8·59284	2·67637		8·59206	2·67887		8·59128	2·68137	9
10	44	9·54933	2·96819	43	9·54847	2·97097	42	9·54760	2·97375	41	9·54674	2·97652	40	9·54587	2·97930	10
1	26	0·95406	0·29959	27	0·95397	0·29987	28	0·95389	0·30015	29	0·95380	0·30042	30	0·95371	0·30070	1
2		1·90813	0·59919		1·90795	0·59974		1·90778	0·60030		1·90760	0·60085		1·90743	0·60141	2
3		2·86219	0·89878		2·86193	0·89962		2·86167	0·90045		2·86141	0·90128		2·86115	0·90211	3
4		3·81626	1·19838		3·81591	1·19949		3·81556	1·20060		3·81521	1·20171		3·81486	1·20282	4
5		4·77033	1·49798		4·76989	1·49936		4·76945	1·50075		4·76902	1·50214		4·76858	1·50352	5
6		5·72439	1·79757		5·72387	1·79924		5·72335	1·80090		5·72282	1·80257		5·72230	1·80423	6
7		6·67846	2·09717		6·67785	2·09911		6·67724	2·10105		6·67663	2·10299		6·67601	2·10494	7
8		7·63252	2·39676		7·63183	2·39898		7·63113	2·40120		7·63043	2·40342		7·62973	2·40564	8
9		8·58659	2·69636		8·58581	2·69886		8·58502	2·70135		8·58423	2·70385		8·58345	2·70635	9
10	34	9·54066	2·99596	33	9·53979	2·99873	32	9·53891	3·00151	31	9·53804	3·00428	30	9·53717	3·00705	10
1	36	0·95319	0·30237	37	0·95310	0·30264	38	0·95301	0·30292	39	0·95292	0·30320	40	0·95283	0·30347	1
2		1·90638	0·60474		1·90620	0·60529		1·90602	0·60584		1·90585	0·60640		1·90567	0·60695	2
3		2·85957	0·90711		2·85930	0·90794		2·85904	0·90877		2·85877	0·90960		2·85851	0·91043	3
4		3·81276	1·20948		3·81241	1·21058		3·81205	1·21169		3·81170	1·21280		3·81135	1·21391	4
5		4·76595	1·51185		4·76551	1·51323		4·76507	1·51462		4·76463	1·51600		4·76419	1·51739	5
6		5·71914	1·81422		5·71861	1·81588		5·71808	1·81754		5·71755	1·81920		5·71702	1·82087	6
7		6·67233	2·11659		6·67171	2·11852		6·67110	2·12047		6·67048	2·12241		6·66986	2·12435	7
8		7·62552	2·41896		7·62482	2·42117		7·62411	2·42339		7·62341	2·42561		7·62270	2·42783	8
9		8·57871	2·72133		8·57792	2·72382		8·57713	2·72631		8·57633	2·72881		8·57554	2·73130	9
10	24	9·53190	3·02370	23	9·53102	3·02647	22	9·53014	3·02924	21	9·52926	3·03201	20	9·52838	3·03478	10
1	46	0·95230	0·30514	47	0·95221	0·30541	48	0·95212	0·30569	49	0·95204	0·30597	50	0·95195	0·30624	1
2		1·90461	0·61028		1·90443	0·61083		1·90425	0·61139		1·90408	0·61194		1·90390	0·61249	2
3		2·85692	0·91542		2·85665	0·91625		2·85638	0·91708		2·85612	0·91791		2·85585	0·91874	3
4		3·80922	1·22056		3·80887	1·22167		3·80851	1·22278		3·80816	1·22388		3·80780	1·22499	4
5		4·76153	1·52570		4·76109	1·52709		4·76064	1·52847		4·76020	1·52986		4·75975	1·53124	5
6		5·71384	1·83084		5·71330	1·83250		5·71277	1·83417		5·71224	1·83583		5·71170	1·83749	6
7		6·66614	2·13598		6·66552	2·13792		6·66490	2·13986		6·66428	2·14180		6·66365	2·14374	7
8		7·61845	2·44113		7·61774	2·44334		7·61703	2·44556		7·61632	2·44777		7·61561	2·44999	8
9		8·57076	2·74627		8·56996	2·74876		8·56916	2·75125		8·56836	2·75375		8·56756	2·75624	9
10	14	9·52307	3·05141	13	9·52218	3·05418	12	9·52129	3·05695	11	9·52040	3·05972	10	9·51951	3·06249	10
1	56	0·95141	0·30791	57	0·95132	0·30818	58	0·95123	0·30846	59	0·95114	0·30874	60	0·95105	0·30901	1
2		1·90283	0·61582		1·90265	0·61637		1·90247	0·61692		1·90229	0·61748		1·90211	0·61803	2
3		2·85424	0·92373		2·85397	0·92456		2·85370	0·92539		2·85343	0·92622		2·85316	0·92705	3
4		3·80566	1·23164		3·80530	1·23274		3·80494	1·23385		3·80458	1·23496		3·80422	1·23606	4
5		4·75707	1·53955		4·75662	1·54093		4·75618	1·54231		4·75573	1·54370		4·75528	1·54508	5
6		5·70849	1·84746		5·70795	1·84912		5·70741	1·85078		5·70687	1·85244		5·70633	1·85410	6
7		6·65990	2·15537		6·65928	2·15730		6·65865	2·15924		6·65802	2·16118		6·65739	2·16311	7
8		7·61132	2·46328		7·61060	2·46549		7·60988	2·46770		7·60917	2·46992		7·60845	2·47213	8
9		8·56273	2·77119		8·56193	2·77368		8·56112	2·77617		8·56031	2·77866		8·55950	2·78115	9
10	04	9·51415	3·07910	03	9·51325	3·08187	02	9·51236	3·08463	01	9·51146	3·08740	00	9·51056	3·09017	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat	D.

6
2

72 DEG.

D	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·95096	0·30929	02	0·95087	0·30957	03	0·95078	0·30984	04	0·95069	0·31012	05	0·95060	0·31040	1
2		1·90193	0·61858		1·90175	0·61914		1·90157	0·61969		1·90139	0·62024		1·90121	0·62080	2
3		2·85289	0·92788		2·85262	0·92871		2·85235	0·92954		2·85208	0·93037		2·85181	0·93120	3
4		3·80386	1·23717		3·80350	1·23828		3·80314	1·23938		3·80278	1·24049		3·80242	1·24160	4
5		4·75483	1·54646		4·75438	1·54785		4·75393	1·54923		4·75348	1·55061		4·75303	1·55200	5
6		5·70579	1·85576		5·70525	1·85742		5·70471	1·85908		5·70417	1·86074		5·70363	1·86240	6
7		6·65676	2·16505		6·65613	2·16699		6·65550	2·16892		6·65487	2·17086		6·65424	2·17280	7
8		7·60773	2·47434		7·60701	2·47656		7·60629	2·47877		7·60557	2·48098		7·60484	2·48320	8
9		8·55869	2·78364		8·55788	2·78613		8·55707	2·78862		8·55626	2·79111		8·55545	2·79360	9
10	59	9·50966	3·09293	58	9·50876	3·09570	57	9·50786	3·09846	56	9·50696	3·10123	55	9·50606	3·10400	10
1	11	0·95006	0·31205	12	0·94997	0·31233	13	0·94988	0·31261	14	0·94979	0·31288	15	0·94969	0·31316	1
2		1·90012	0·62411		1·89994	0·62466		1·89976	0·62522		1·89958	0·62577		1·89939	0·62632	2
3		2·85018	0·93617		2·84991	0·93700		2·84964	0·93783		2·84937	0·93866		2·84909	0·93949	3
4		3·80025	1·24823		3·79988	1·24933		3·79952	1·25044		3·79916	1·25155		3·79879	1·25265	4
5		4·75031	1·56029		4·74986	1·56167		4·74940	1·56305		4·74895	1·56443		4·74849	1·56581	5
6		5·70037	1·87235		5·69983	1·87400		5·69928	1·87566		5·69874	1·87732		5·69819	1·87898	6
7		6·65044	2·18441		6·64980	2·18634		6·64916	2·18827		6·64853	2·19021		6·64789	2·19214	7
8		7·60050	2·49646		7·59977	2·49867		7·59904	2·50088		7·59832	2·50310		7·59759	2·50531	8
9		8·55056	2·80852		8·54974	2·81101		8·54893	2·81350		8·54811	2·81598		8·54729	2·81847	9
10	49	9·50063	3·12058	48	9·49972	3·12335	47	9·49881	3·12611	46	9·49790	3·12887	45	9·49699	3·13163	10
1	21	0·94915	0·31482	22	0·94906	0·31509	23	0·94896	0·31537	24	0·94887	0·31564	25	0·94878	0·31592	1
2		1·89830	0·62964		1·89812	0·63019		1·89793	0·63074		1·89775	0·63129		1·89756	0·63185	2
3		2·84745	0·94446		2·84718	0·94529		2·84690	0·94611		2·84662	0·94694		2·84635	0·94777	3
4		3·79660	1·25928		3·79624	1·26038		3·79587	1·26149		3·79550	1·26259		3·79513	1·26370	4
5		4·74575	1·57410		4·74530	1·57548		4·74483	1·57686		4·74438	1·57824		4·74392	1·57962	5
6		5·69490	1·88892		5·69436	1·89058		5·69380	1·89223		5·69325	1·89389		5·69270	1·89555	6
7		6·64405	2·20374		6·64342	2·20567		6·64277	2·20761		6·64213	2·20954		6·64148	2·21147	7
8		7·59320	2·51856		7·59248	2·52077		7·59174	2·52298		7·59101	2·52519		7·59027	2·52740	8
9		8·54235	2·83338		8·54154	2·83587		8·54071	2·83835		8·53988	2·84084		8·53905	2·84332	9
10	39	9·49151	3·14821	38	9·49060	3·15097	37	9·48967	3·15373	36	9·48876	3·15649	35	9·48784	3·15925	10
1	31	0·94823	0·31758	32	0·94813	0·31785	33	0·94804	0·31813	34	0·94795	0·31840	35	0·94786	0·31868	1
2		1·89646	0·63516		1·89627	0·63571		1·89609	0·63626		1·89590	0·63681		1·89572	0·63736	2
3		2·84469	0·95274		2·84441	0·95356		2·84413	0·95439		2·84386	0·95522		2·84358	0·95605	3
4		3·79292	1·27032		3·79255	1·27142		3·79218	1·27252		3·79181	1·27363		3·79144	1·27473	4
5		4·74115	1·58790		4·74069	1·58928		4·74023	1·59066		4·73976	1·59204		4·73930	1·59341	5
6		5·68938	1·90548		5·68883	1·90713		5·68827	1·90879		5·68772	1·91044		5·68716	1·91210	6
7		6·63761	2·22306		6·63697	2·22499		6·63632	2·22692		6·63567	2·22885		6·63502	2·23078	7
8		7·58585	2·54064		7·58511	2·54285		7·58437	2·54505		7·58363	2·54726		7·58288	2·54946	8
9		8·53408	2·85822		8·53325	2·86070		8·53241	2·86318		8·53158	2·86567		8·53075	2·86815	9
10	29	9·48231	3·17580	28	9·48139	3·17856	27	9·48046	3·18132	26	9·47953	3·18408	25	9·47861	3·18683	10
1	41	0·94730	0·32033	42	0·94721	0·32061	43	0·94711	0·32088	44	0·94702	0·32116	45	0·94693	0·32143	1
2		1·89460	0·64067		1·89442	0·64122		1·89423	0·64177		1·89404	0·64232		1·89386	0·64287	2
3		2·84191	0·96101		2·84163	0·96183		2·84135	0·96266		2·84107	0·96349		2·84079	0·96431	3
4		3·78921	1·28134		3·78884	1·28245		3·78846	1·28355		3·78809	1·28465		3·78772	1·28575	4
5		4·73651	1·60168		4·73605	1·60306		4·73558	1·60444		4·73511	1·60582		4·73465	1·60719	5
6		5·68382	1·92202		5·68326	1·92367		5·68270	1·92532		5·68214	1·92698		5·68158	1·92863	6
7		6·63112	2·24236		6·63047	2·24429		6·62981	2·24621		6·62916	2·24814		6·62851	2·25007	7
8		7·57842	2·56269		7·57768	2·56490		7·57693	2·56710		7·57618	2·56931		7·57544	2·57151	8
9		8·52573	2·88303		8·52489	2·88551		8·52405	2·88799		8·52321	2·89047		8·52237	2·89295	9
10	19	9·47303	3·20337	18	9·47210	3·20613	17	9·47117	3·20888	16	9·47023	3·21164	15	9·46930	3·21439	10
1	51	0·94636	0·32309	52	0·94627	0·32336	53	0·94618	0·32364	54	0·94608	0·32391	55	0·94599	0·32419	1
2		1·89273	0·64618		1·89254	0·64673		1·89236	0·64728		1·89217	0·64783		1·89198	0·64838	2
3		2·83910	0·96927		2·83882	0·97010		2·83854	0·97092		2·83825	0·97175		2·83797	0·97257	3
4		3·78547	1·29236		3·78509	1·29346		3·78472	1·29456		3·78434	1·29566		3·78396	1·29677	4
5		4·73183	1·61545		4·73136	1·61683		4·73090	1·61821		4·73042	1·61958		4·72995	1·62096	5
6		5·67820	1·93855		5·67764	1·94020		5·67708	1·94185		5·67651	1·94350		5·67594	1·94515	6
7		6·62457	2·26164		6·62391	2·26356		6·62326	2·26549		6·62259	2·26742		6·62193	2·26934	7
8		7·57094	2·58473		7·57018	2·58693		7·56944	2·58913		7·56868	2·59133		7·56792	2·59354	8
9		8·51730	2·90782		8·51646	2·91030		8·51562	2·91277		8·51476	2·91525		8·51391	2·91773	9
10	09	9·46367	3·23091	08	9·46273	3·23367	07	9·46180	3·23642	06	9·46085	3·23917	05	9·45991	3·24192	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·95051	0·31067	07	0·95042	0·31095	08	0·95033	0·31122	09	0·95024	0·31150	10	0·95015	0·31178	1
2		1·90103	0·62135		1·90085	0·62190		1·90066	0·62245		1·90048	0·62301		1·90030	0·62356	2
3		2·85154	0·93202		2·85127	0·93285		2·85100	0·93368		2·85073	0·93451		2·85046	0·93534	3
4		3·80206	1·24270		3·80170	1·24381		3·80133	1·24491		3·80097	1·24602		3·80061	1·24712	4
5		4·75257	1·55338		4·75212	1·55476		4·75167	1·55614		4·75122	1·55752		4·75076	1·55891	5
6		5·70309	1·86405		5·70255	1·86571		5·70200	1·86737		5·70146	1·86903		5·70092	1·87069	6
7		6·65360	2·17473		6·65297	2·17667		6·65234	2·17860		6·65171	2·18054		6·65107	2·18247	7
8		7·60412	2·48541		7·60340	2·48762		7·60267	2·48983		7·60195	2·49204		7·60122	2·49425	8
9		8·55464	2·79608		8·55382	2·79857		8·55301	2·80106		8·55219	2·80355		8·55138	2·80603	9
10	54	9·50515	3·10676	53	9·50425	3·10953	52	9·50334	3·11229	51	9·50244	3·11505	50	9·50153	3·11782	10
1	16	0·94960	0·31344	17	0·94951	0·31371	18	0·94942	0·31399	19	0·94933	0·31426	20	0·94924	0·31454	1
2		1·89921	0·62688		1·89903	0·62743		1·89885	0·62798		1·89866	0·62853		1·89848	0·62908	2
3		2·84882	0·94032		2·84855	0·94114		2·84827	0·94197		2·84800	0·94280		2·84772	0·94363	3
4		3·79843	1·25376		3·79806	1·25486		3·79770	1·25597		3·79733	1·25707		3·79697	1·25817	4
5		4·74804	1·56720		4·74758	1·56858		4·74712	1·56996		4·74667	1·57134		4·74621	1·57272	5
6		5·69764	1·88064		5·69710	1·88229		5·69655	1·88395		5·69600	1·88561		5·69545	1·88726	6
7		6·64725	2·19408		6·64661	2·19601		6·64597	2·19794		6·64533	2·19988		6·64469	2·20181	7
8		7·59686	2·50752		7·59613	2 50973		7·59540	2·51194		7·59467	2·51414		7·59394	2·51635	8
9		8·54647	2·82096		8·54565	2·82344		8·54482	2·82593		8·54400	2·82841		8·54318	2·83090	9
10	44	9·49608	3·13440	43	9·49516	3·13716	42	9·49425	3·13992	41	9·49334	3·14268	40	9·49242	3·14544	10
1	26	0·94869	0·31620	27	0·94860	0·31647	28	0·94850	0·31675	29	0·94841	0·31702	30	0·94832	0·31730	1
2		1·89738	0·63240		1·89720	0·63295		1·89701	0·63350		1·89683	0·63405		1·89664	0·63460	2
3		2·84607	0·94860		2·84580	0·94943		2·84552	0·95025		2·84524	0·95108		2·84497	0·95191	3
4		3·79476	1·26480		3·79440	1·26590		3·79403	1·26701		3·79366	1·26811		3·79329	1·26921	4
5		4·74346	1·58100		4·74300	1·58238		4·74254	1·58376		4·74208	1·58514		4·74161	1·58652	5
6		5·69215	1·89720		5·69160	1·89886		5·69104	1·90051		5·69049	1·90217		5·68994	1·90382	6
7		6·64084	2·21340		6·64020	2·21533		6·63955	2·21727		6·63891	2·21920		6·63826	2·22113	7
8		7·58953	2·52960		7·58880	2·53181		7·58806	2·53402		7·58732	2·53623		7·58658	2·53843	8
9		8·53822	2·84580		8·53740	2·84829		8·53657	2·85077		8·53574	2·85325		8·53491	2·85574	9
10	34	9·48692	3·16201	33	9·48600	3·16477	32	9·48508	3·16753	31	9·48416	3·17028	30	9·48323	3·17304	10
1	36	0·94776	0·31895	37	0·94767	0·31923	38	0·94758	0·31951	39	0·94749	0·31978	40	0·94739	0·32006	1
2		1·89553	0·63791		1·89535	0·63847		1·89516	0·63902		1·89498	0·63957		1·89479	0·64012	2
3		2·84330	0·95687		2·84302	0·95770		2·84274	0·95853		2·84247	0·95935		2·84218	0·96018	3
4		3·79107	1·27583		3·79070	1·27694		3·79033	1·27804		3·78996	1·27914		3·78958	1·28024	4
5		4·73884	1·59479		4·73837	1·59617		4·73791	1·59755		4·73745	1·59893		4·73698	1·60031	5
6		5·68661	1·91375		5·68605	1·91541		5·68549	1·91706		5·68494	1·91871		5·68437	1·92037	6
7		6·63437	2·23271		6·63372	2·23464		6·63307	2·23657		6·63243	2·23850		6·63177	2·24043	7
8		7 58214	2·55167		7·58140	2·55388		7·58066	2·55608		7·57992	2·55829		7·57917	2·56049	8
9		8·52991	2·87063		8·52908	2·87311		8·52824	2·87559		8·52741	2·87807		8·52656	2·88055	9
10	24	9·47768	3·18959	23	9·47675	3·19235	22	9·47582	3·19510	21	9·47490	3·19786	20	9·47396	3·20062	10
1	46	0·94683	0·32171	47	0·94674	0·32199	48	0·94664	0·32226	49	0·94655	0·32254	50	0·94646	0·32281	1
2		1·89367	0·64342		1·89348	0·64398		1·89329	0·64453		1·89311	0·64508		1·89292	0·64563	2
3		2·84050	0·96514		2·84022	0·96597		2·83994	0·96679		2·83966	0·96762		2·83938	0 96844	3
4		3·78734	1·28685		3·78697	1·28796		3·78659	1·28906		3·78622	1·29016		3·78584	1·29126	4
5		4·73418	1·60857		4·73371	1·60995		4·73324	1·61132		4·73277	1·61270		4·73230	1·61408	5
6		5·68101	1·93028		5·68045	1·93194		5·67989	1·93359		5·67933	1·93524		5·67876	1·93689	6
7		6·62785	2 25200		6·62720	2·25393		6·62654	2·25585		6·62588	2·25778		6·62523	2·25971	7
8		7·57469	2·57371		7·57394	2·57592		7·57319	2·57812		7·57244	2·58032		7·57169	2·58253	8
9		8·52152	2·89543		8·52068	2·89791		8·51984	2·90039		8·51899	2·90286		8·51815	2·90534	9
10	14	9·46836	3·21715	13	9·46743	3·21990	12	9·46649	3·22265	11	9·46555	3·22541	10	9·46461	3·22816	10
1	56	0·94589	0·32446	57	0·94580	0·32474	58	0·94570	0·32501	59	0·94561	0·32529	60	0·94551	0·32556	1
2		1·89179	0·64893		1·89160	0·64948		1·89141	0·65003		1·89122	0·65058		1·89103	0·65113	2
3		2·83769	0·97340		2·83740	0·97422		2·83712	0·97505		2·83683	0·97587		2·83655	0·97670	3
4		3·78358	1·29787		3·78320	1·29897		3·78283	1·30007		3·78245	1·30117		3·78207	1·30227	4
5		4·72948	1·62233		4·72901	1·62371		4·72853	1·62509		4·72806	1·62646		4·72759	1·62784	5
6		5·67538	1·94680		5·67481	1·94845		5·67424	1·95010		5·67367	1·95175		5·67311	1·95340	6
7		6·62127	2·27127		6·62061	2·27320		6·61995	2·27512		6·61929	2·27705		6·61863	2·27897	7
8		7·56717	2·59574		7·56641	2·59794		7·56566	2·60014		7·56490	2·60234		7·56414	2·60454	8
9		8·51307	2·92021		8·51222	2·92268		8·51137	2·92516		8·51051	2·92763		8·50966	2·93011	9
10	04	9·45896	3·24467	03	9·45802	3·24743	02	9·45707	3·25018	01	9·45613	3·25293	00	9·45518	3·25568	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

71 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat	Dep.	M.	Lat	Dep.	M.	Lat.	Dep.	D.
1	01	0·94542	0·32584	02	0·94532	0·32611	03	0·94523	0·32639	04	0·94513	0·32666	05	0·94504	0·32694	1
2		1·89084	0·65168		1·89065	0·65223		1·89046	0·65278		1·89027	0·65333		1·89008	0·65388	2
3		2·83627	0·97752		2·83598	0·97835		2·83570	0·97917		2·83541	0·98000		2·83513	0·98082	3
4		3·78169	1·30337		3·78131	1·30447		3·78093	1·30557		3·78055	1·30667		3·78017	1·30777	4
5		4·72711	1·62921		4·72664	1·63059		4·72617	1·63196		4·72569	1·63334		4·72522	1·63471	5
6		5·67254	1·95505		5·67197	1·95670		5·67140	1·95835		5·67083	1·96000		5·67026	1·96165	6
7		6·61796	2·28090		6·61730	2·28282		6·61663	2·28475		6·61597	2·28667		6·61530	2·28860	7
8		7·56339	2·60674		7·56263	2·60894		7·56187	2·61114		7·56111	2·61334		7·56035	2·61554	8
9		8·50881	2·93258		8·50796	2·93506		8·50710	2·93753		8·50625	2·94001		8·50539	2·94248	9
10	59	9·45423	3·25843	58	9·45329	3·26118	57	9·45234	3·26393	56	9·45139	3·26668	55	9·45044	3·26943	10
1	11	0·94447	0·32859	12	0·94437	0·32886	13	0·94428	0·32914	14	0·94418	0·32941	15	0·94408	0·32969	1
2		1·88894	0·65718		1·88875	0·65773		1·88856	0·65828		1·88836	0·65883		1·88817	0·65938	2
3		2·83341	0·98577		2·83312	0·98659		2·83284	0·98742		2·83255	0·98824		2·83226	0·98907	3
4		3·77788	1·31436		3·77750	1·31546		3·77712	1·31656		3·77673	1·31766		3·77635	1·31876	4
5		4·72236	1·64296		4·72188	1·64433		4·72140	1·64570		4·72092	1·64708		4·72044	1·64845	5
6		5·66683	1·97155		5·66625	1·97319		5·66568	1·97484		5·66510	1·97649		5·66453	1·97814	6
7		6·61130	2·30014		6·61063	2·30206		6·60996	2·30398		6·60929	2·30591		6·60862	2·30783	7
8		7·55577	2·62873		7·55501	2·63093		7·55424	2·63313		7·55347	2·63532		7·55271	2·63752	8
9		8·50024	2·95732		8·49938	2·95979		8·49852	2·96227		8·49766	2·96474		8·49680	2·96721	9
10	49	9·44472	3·28592	48	9·44376	3·28866	47	9·44280	3·29141	46	9·44185	3·29416	45	9·44089	3·29690	10
1	21	0·94351	0·33133	22	0·94341	0·33161	23	0·94331	0·33188	24	0·94322	0·33216	25	0·94312	0·33243	1
2		1·88702	0·66267		1·88683	0·66322		1·88663	0·66377		1·88644	0·66432		1·88625	0·66487	2
3		2·83053	0·99401		2·83024	0·99483		2·82995	0·99566		2·82966	0·99648		2·82937	0·99730	3
4		3·77404	1·32535		3·77366	1·32644		3·77327	1·32754		3·77289	1·32864		3·77250	1·32974	4
5		4·71756	1·65669		4·71707	1·65806		4·71659	1·65943		4·71611	1·66080		4·71563	1·66217	5
6		5·66107	1·98802		5·66049	1·98967		5·65991	1·99132		5·65933	1·99296		5·65875	1·99461	6
7		6·60458	2·31936		6·60390	2·32128		6·60323	2·32320		6·60255	2·32512		6·60188	2·32704	7
8		7·54809	2·65070		7·54732	2·65289		7·54655	2·65509		7·54578	2·65728		7·54500	2·65948	8
9		8·49160	2·98204		8·49074	2·98451		8·48987	2·98698		8·48900	2·98944		8·48813	2·99191	9
10	39	9·43512	3·31338	38	9·43415	3·31612	37	9·43319	3·31886	36	9·43222	3·32161	35	9·43126	3·32435	10
1	31	0·94254	0·33408	32	0·94244	0·33435	33	0·94235	0·33462	34	0·94225	0·33490	35	0·94215	0·33517	1
2		1·88508	0·66816		1·88489	0·66871		1·88470	0·66925		1·88450	0·66980		1·88431	0·67035	2
3		2·82763	1·00224		2·82734	1·00306		2·82705	1·00388		2·82675	1·00471		2·82646	1·00553	3
4		3·77017	1·33632		3·76978	1·33742		3·76940	1·33851		3·76901	1·33961		3·76862	1·34071	4
5		4·71272	1·67040		4·71223	1·67177		4·71175	1·67314		4·71126	1·67451		4·71077	1·67588	5
6		5·65526	2·00448		5·65468	2·00613		5·65410	2·00777		5·65351	2·00942		5·65293	2·01106	6
7		6·59781	2·33856		6·59712	2·34048		6·59645	2·34240		6·59576	2·34432		6·59508	2·34624	7
8		7·54035	2·67264		7·53957	2·67484		7·53880	2·67703		7·53802	2·67922		7·53724	2·68142	8
9		8·48289	3·00672		8·48202	3·00919		8·48115	3·01166		8·48027	3·01413		8·47939	3·01659	9
10	29	9·42544	3·34081	28	9·42447	3·34355	27	9·42350	3·34629	26	9·42252	3·34903	25	9·42155	3·35177	10
1	41	0·94156	0·33682	42	0·94147	0·33709	43	0·94137	0·33736	44	0·94127	0·33764	45	0·94117	0·33791	1
2		1·88313	0·67364		1·88294	0·67419		1·88274	0·67473		1·88254	0·67528		1·88235	0·67583	2
3		2·82470	1·01046		2·82441	1·01128		2·82411	1·01210		2·82382	1·01292		2·82352	1·01375	3
4		3·76627	1·34728		3·76588	1·34838		3·76548	1·34947		3·76509	1·35057		3·76470	1·35166	4
5		4·70784	1·68410		4·70735	1·68547		4·70686	1·68684		4·70637	1·68821		4·70588	1·68958	5
6		5·64941	2·02092		5·64882	2·02257		5·64823	2·02421		5·64764	2·02585		5·64705	2·02750	6
7		6·59098	2·35774		6·59029	2·35966		6·58960	2·36158		6·58892	2·36350		6·58823	2·36541	7
8		7·53254	2·69457		7·53176	2·69676		7·53097	2·69895		7·53019	2·70114		7·52940	2·70333	8
9		8·47411	3·03139		8·47323	3·03385		8·47235	3·03632		8·47146	3·03878		8·47058	3·04125	9
10	19	9·41568	3·36821	18	9·41470	3·37095	17	9·41372	3·37369	16	9·41274	3·37643	15	9·41176	3·37916	10
1	51	0·94058	0·33955	52	0·94048	0·33983	53	0·94038	0·34010	54	0·94028	0·34038	55	0·94018	0·34065	1
2		1·88116	0·67911		1·88097	0·67966		1·88077	0·68021		1·88057	0·68076		1·88037	0·68130	2
3		2·82175	1·01867		2·82145	1·01949		2·82116	1·02031		2·82086	1·02114		2·82056	1·02195	3
4		3·76233	1·35823		3·76194	1·35933		3·76154	1·36042		3·76115	1·36152		3·76075	1·36261	4
5		4·70292	1·69779		4·70243	1·69916		4·70193	1·70053		4·70144	1·70190		4·70094	1·70326	5
6		5·64350	2·03735		5·64291	2·03899		5·64232	2·04063		5·64172	2·04228		5·64113	2·04391	6
7		6·58409	2·37691		6·58340	2·37882		6·58270	2·38074		6·58201	2·38266		6·58132	2·38457	7
8		7·52467	2·71647		7·52388	2·71866		7·52309	2·72084		7·52230	2·72304		7·52151	2·72522	8
9		8·46526	3·05603		8·46437	3·05849		8·46348	3·06095		8·46259	3·06342		8·46170	3·06587	9
10	09	9·40584	3·39559	08	9·40486	3·39832	07	9·40387	3·40106	06	9·40288	3·40380	05	9·40189	3·40653	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·94494	0·32721	07	0·94485	0·32749	08	0·94475	0·32776	09	0·94466	0·32804	10	0·94456	0·32831	1
2		1·88989	0·65443		1·88970	0·65498		1·88951	0·65553		1·88932	0·65608		1·88913	0·65663	2
3		2·83484	0·98165		2·83456	0·98247		2·83427	0·98330		2·83398	0·98412		2·83370	0·98495	3
4		3·77979	1·30887		3·77941	1·30997		3·77903	1·31107		3·77865	1·31216		3·77827	1·31326	4
5		4·72474	1·63609		4·72426	1·63746		4·72379	1·63883		4·72331	1·64021		4·72283	1·64158	5
6		5·66969	1·96330		5·66912	1·96495		5·66855	1·96660		5·66797	1·96825		5·66740	1·96990	6
7		6·61464	2·29052		6·61397	2·29244		6·61330	2·29437		6·61264	2·29629		6·61197	2·29822	7
8		7·55959	2·61774		7·55882	2·61994		7·55806	2·62214		7·55730	2·62433		7·55654	2·62653	8
9		8·50454	2·94496		8·50368	2·94743		8·50282	2·94990		8·50196	2·95238		8·50110	2·95485	9
10	54	9·44949	3·27218	53	9·44853	3·27492	52	9·44758	3·27767	51	9·44663	3·28042	50	9·44567	3·28317	10
1	16	0·94399	0·32996	17	0·94389	0·33024	18	0·94380	0·33051	19	0·94370	0·33078	20	0·94360	0·33106	1
2		1·88798	0·65993		1·88779	0·66048		1·88760	0·66102		1·88740	0·66157		1·88721	0·66212	2
3		2·83197	0·98989		2·83169	0·99072		2·83140	0·99154		2·83111	0·99236		2·83082	0·99319	3
4		3·77597	1·31986		3·77558	1·32096		3·77520	1·32205		3·77481	1·32315		3·77443	1·32425	4
5		4·71996	1·64982		4·71948	1·65120		4·71900	1·65257		4·71852	1·65394		4·71804	1·65531	5
6		5·66395	1·97979		5·66338	1·98144		5·66280	1·98308		5·66222	1·98473		5·66165	1·98638	6
7		6·60795	2·30975		6·60727	2·31168		6·60660	2·31360		6·60593	2·31552		6·60525	2·31744	7
8		7·55194	2·63972		7·55117	2·64192		7·55040	2·64411		7·54963	2·64631		7·54886	2·64850	8
9		8·49593	2·96968		8·49507	2·97216		8·49420	2·97462		8·49334	2·97710		8·49247	2·97957	9
10	44	9·43993	3·29965	43	9·43897	3·30240	42	9·43801	3·30514	41	9·43704	3·30789	40	9·43608	3·31063	10
1	26	0·94302	0·33271	27	0·94293	0·33298	28	0·94283	0·33325	29	0·94273	0·33353	30	0·94264	0·33380	1
2		1·88605	0·66542		1·88586	0·66596		1·88567	0·66651		1·88547	0·66706		1·88528	0·66761	2
3		2·82908	0·99813		2·82879	0·99895		2·82850	0·99977		2·82821	1·00059		2·82792	1·00142	3
4		3·77211	1·33084		3·77172	1·33193		3·77134	1·33303		3·77095	1·33413		3·77056	1·33522	4
5		4·71514	1·66355		4·71466	1·66492		4·71417	1·66629		4·71369	1·66766		4·71320	1·66903	5
6		5·65817	1·99626		5·65759	1·99790		5·65701	1·99955		5·65643	2·00119		5·65584	2·00284	6
7		6·60120	2·32897		6·60052	2·33088		6·59984	2·33280		6·59917	2·33472		6·59849	2·33664	7
8		7·54423	2·66168		7·54345	2·66387		7·54268	2·66606		7·54190	2·66826		7·54113	2·67045	8
9		8·48726	2·99439		8·48639	2·99685		8·48551	2·99932		8·48464	3·00179		8·48377	3·00426	9
10	34	9·43029	3·32710	33	9·42932	3·32984	32	9·42835	3·33258	31	9·42738	3·33532	30	9·42641	3·33807	10
1	36	0·94205	0·33545	37	0·94196	0·33572	38	0·94186	0·33600	39	0·94176	0·33627	40	0·94166	0·33654	1
2		1·88411	0·67090		1·88392	0·67145		1·88372	0·67200		1·88352	0·67254		1·88333	0·67309	2
3		2·82617	1·00635		2·82588	1·00717		2·82558	1·00800		2·82529	1·00882		2·82499	1·00964	3
4		3·76823	1·34180		3·76784	1·34290		3·76744	1·34400		3·76705	1·34509		3·76666	1·34619	4
5		4·71028	1·67725		4·70980	1·67862		4·70931	1·68000		4·70882	1·68136		4·70833	1·68273	5
6		5·65234	2·01270		5·65176	2·01435		5·65117	2·01600		5·65058	2·01764		5·64999	2·01928	6
7		6·59440	2·34816		6·59372	2·35007		6·59303	2·35200		6·59235	2·35391		6·59166	2·35583	7
8		7·53646	2·68361		7·53568	2·68580		7·53489	2·68800		7·53411	2·69018		7·53333	2·69238	8
9		8·47851	3·01906		8·47764	3·02153		8·47675	3·02400		8·47587	3·02646		8·47499	3·02892	9
10	24	9·42057	3·35451	23	9·41960	3·35725	22	9·41862	3·36000	21	9·41764	3·36273	20	9·41666	3·36547	10
1	46	0·94107	0·33819	47	0·94097	0·33846	48	0·94088	0·33873	49	0·94078	0·33901	50	0·94068	0·33928	1
2		1·88215	0·67638		1·88195	0·67692		1·88176	0·67747		1·88156	0·67802		1·88136	0·67857	2
3		2·82323	1·01457		2·82293	1·01539		2·82264	1·01621		2·82234	1·01703		2·82205	1·01785	3
4		3·76431	1·35276		3·76391	1·35385		3·76352	1·35495		3·76312	1·35604		3·76273	1·35714	4
5		4·70538	1·69095		4·70489	1·69232		4·70440	1·69369		4·70391	1·69505		4·70341	1·69642	5
6		5·64646	2·02914		5·64587	2·03078		5·64528	2·03242		5·64469	2·03406		5·64410	2·03571	6
7		6·58754	2·36733		6·58685	2·36924		6·58616	2·37116		6·58547	2·37308		6·58478	2·37499	7
8		7·52862	2·70552		7·52783	2·70771		7·52704	2·70990		7·52625	2·71209		7·52546	2·71428	8
9		8·46969	3·04371		8·46881	3·04617		8·46792	3·04864		8·46703	3·05110		8·46615	3·05356	9
10	14	9·41077	3·38190	13	9·40979	3·38464	12	9·40880	3·38738	11	9·40782	3·39011	10	9·40683	3·39285	10
1	56	0·94009	0·34092	57	0·93999	0·34120	58	0·93989	0·34147	59	0·93979	0·34174	60	0·93969	0·34202	1
2		1·88018	0·68185		1·87998	0·68240		1·87978	0·68294		1·87958	0·68349		1·87938	0·68404	2
3		2·82027	1·02277		2·81997	1·02360		2·81967	1·02442		2·81937	1·02524		2·81907	1·02606	3
4		3·76036	1·36370		3·75996	1·36480		3·75956	1·36589		3·75916	1·36698		3·75877	1·36808	4
5		4·70045	1·70463		4·69995	1·70600		4·69945	1·70736		4·69896	1·70873		4·69846	1·71010	5
6		5·64054	2·04555		5·63994	2·04720		5·63934	2·04884		5·63875	2·05048		5·63815	2·05212	6
7		6·58063	2·38648		6·57993	2·38840		6·57923	2·39031		6·57854	2·39222		6·57784	2·39414	7
8		7·52072	2·72741		7·51992	2·72960		7·51913	2·73178		7·51833	2·73397		7·51754	2·73616	8
9		8·46081	3·06833		8·45991	3·07080		8·45902	3·07326		8·45812	3·07572		8·45723	3·07818	9
10	04	9·40090	3·40926	03	9·39990	3·41200	02	9·39891	3·41473	01	9·39792	3·41746	00	9·39692	3·42020	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat	M.	Dep.	Lat.	D.

DEG. 20.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·93959	0·34229	02	0·93949	0·34256	03	0·93939	0·34284	04	0·93929	0·34311	05	0·93919	0·34338	1
2		1·87918	0·68458		1·87898	0·68513		1·87878	0·68568		1·87858	0·68622		1·87838	0·68677	2
3		2·81877	1·02688		2·81848	1·02770		2·81818	1·02852		2·81788	1·02933		2·81758	1·03015	3
4		3·75837	1·36917		3·75797	1·37026		3·75757	1·37136		3·75717	1·37245		3·75677	1·37354	4
5		4·69796	1·71146		4·69746	1·71283		4·69696	1·71420		4·69647	1·71556		4·69597	1·71693	5
6		5·63755	2·05376		5·63696	2·05540		5·63636	2·05704		5·63576	2·05867		5·63516	2·06031	6
7		6·57715	2·39605		6·57645	2·39796		6·57575	2·39988		6·57505	2·40179		6·57435	2·40370	7
8		7·51674	2·73834		7·51594	2·74053		7·51515	2·74272		7·51435	2·74490		7·51355	2·74709	8
9		8·45633	3·08064		8·45544	3·08310		8·45454	3·08556		8·45364	3·08801		8·45274	3·09047	9
10	59	9·39593	3·42293	58	9·39493	3·42566	57	9·39393	3·42840	56	9·39294	3·43113	55	9·39194	3·43386	10
1	11	0·93859	0·34502	12	0·93849	0 34529	13	0·93839	0·34557	14	0·93829	0·34584	15	0·93819	0·34611	1
2		1·87718	0·69005		1·87698	0·69059		1·87678	0·69114		1·87658	0·69168		1·87638	0·69223	2
3		2·81578	1·03507		2·81547	1·03589		2·81517	1·03671		2·81487	1·03753		2·81457	1·03835	3
4		3·75437	1·38010		3·75397	1·38119		3·75357	1·38228		3·75316	1·38337		3·75276	1·38446	4
5		4·69297	1·72512		4·69246	1·72649		4·69196	1·72785		4·69146	1·72922		4·69095	1·73058	5
6		5·63156	2·07015		5·63095	2·07178		5·63035	2·07342		5·62975	2·07506		5·62914	2 07670	6
7		6·57015	2·41517		6·56945	2·41708		6·56874	2·41899		6·56804	2·42090		6·56733	2·42281	7
8		7·50874	2·76020		7·50794	2·76238		7·50714	2·76456		7·50633	2·76675		7·50553	2 76893	8
9		8·44734	3·10522		8·44643	3·10768		8·44553	3·11014		8·44462	3·11259		8·44372	3·11505	9
10	49	9·38593	3·45025	48	9·38493	3·45298	47	9·38392	3·45571	46	9·38292	3·45844	45	9·38191	3·46117	10
1	21	0·93758	0·34775	22	0·93748	0·34802	23	0·93738	0·34829	24	0·93728	0·34857	25	0·93718	0·34884	1
2		1·87517	0·69550		1·87496	0·69605		1·87476	0·69659		1·87456	0·69714		1·87436	0·69768	2
3		2·81275	1·04326		2·81245	1·04408		2·81214	1·04489		2·81184	1·04571		2·81154	1·04653	3
4		3·75034	1·39101		3·74993	1·39210		3·74953	1·39319		3·74912	1·39428		3·74872	1·39537	4
5		4·68792	1·73877		4·68742	1·74013		4·68691	1·74149		4·68641	1·74286		4·68590	1·74422	5
6		5·62551	2·08652		5·62490	2·08816		5·62429	2·08979		5·62369	2 09143		5·62308	2·09306	6
7		6·56310	2·43427		6·56239	2·43618		6·56168	2·43809		6·56097	2·44000		6·56026	2·44191	7
8		7·50068	2·78203		7·49987	2·78421		7·49906	2·78639		7·49825	2·78857		7·49744	2·79075	8
9		8·43827	3·12978		8·43736	3·13224		8·43644	3·13469		8·43553	3·13714		8·43462	3·13960	9
10	39	9·37585	3·47754	38	9·37484	3·48026	37	9·37383	3·48299	36	9·37282	3·48572	35	9·37180	3·48844	10
1	31	0·93657	0·35048	32	0·93646	0·35075	33	0·93636	0·35102	34	0·93626	0·35129	35	0·93616	0·35156	1
2		1·87314	0·70096		1·87293	0·70150		1·87273	0·70204		1·87252	0·70259		1·87232	0·70313	2
3		2·80971	1·05144		2·80940	1·05225		2·80909	1·05307		2·80879	1·05389		2·80848	1·05470	3
4		3·74628	1·40192		3·74587	1·40300		3·74546	1·40409		3·74505	1·40518		3·74464	1·40627	4
5		4·68285	1·75240		4·68234	1·75376		4·68183	1·75512		4·68132	1·75648		4·68080	1·75784	5
6		5·61942	2·10288		5·61880	2·10451		5·61819	2·10614		5·61758	2·10778		5·61697	2·10941	6
7		6·55599	2·45336		6·55527	2·45526		6·55456	2·45717		6·55384	2·45907		6·55313	2·46098	7
8		7·49256	2·80384		7·49174	2·80601		7·49092	2·80819		7·49011	2·81037		7·48929	2·81255	8
9		8·42913	3·15432		8·42821	3·15677		8·42729	3·15922		8·42637	3·16167		8·42545	3·16412	9
10	29	9·36570	3·50480	28	9·36468	3 50752	27	9·36366	3·51024	26	9·36264	3·51297	25	9·36161	3·51569	10
1	41	0·93554	0·35320	42	0·93544	0·35347	43	0·93534	0·35374	44	0·93523	0·35401	45	0·93513	0·35429	1
2		1·87109	0 70640		1·87088	0·70694		1·87068	0·70749		1·87047	0·70803		1·87027	0·70858	2
3		2·80664	1·05960		2·80633	1·06042		2·80602	1·06124		2·80571	1·06205		2·80540	1·06287	3
4		3·74218	1·41281		3·74177	1·41389		3·74136	1·41498		3·74095	1·41607		3·74054	1·41716	4
5		4·67773	1·76601		4·67722	1·76737		4·67670	1·76873		4·67619	1·77009		4·67567	1·77145	5
6		5·61328	2·11921		5·61266	2·12084		5·61204	2·12248		5·61142	2·12411		5·61081	2·12574	6
7		6·54882	2·47241		6·54810	2·47432		6·54738	2·47622		6·54666	2·47813		6·54594	2·48003	7
8		7·48437	2·82562		7·48355	2·82779		7·48272	2·82997		7·48190	2·83215		7·48108	2·83432	8
9		8·41992	3·17882		8·41899	3·18127		8·41807	3·18372		8·41714	3·18617		8 41621	3·18861	9
10	19	9·35546	3·53202	18	9·35444	3·53474	17	9·35341	3·53747	16	9·35238	3·54019	15	9·35135	3·54291	10
1	51	0·93451	0·35592	52	0·93441	0·35619	53	0·93430	0·35646	54	0·93420	0·35673	55	0·93410	0·35701	1
2		1·86903	0·71184		1·86882	0·71238		1·86861	0·71293		1·86840	0·71347		1·86820	0·71402	2
3		2·80354	1·06776		2·80323	1·06858		2·80292	1·06939		2·80261	1·07021		2·80230	1·07103	3
4		3·73806	1·42369		3·73764	1·42477		3·73723	1·42586		3·73681	1·42695		3·73640	1·42804	4
5		4·67257	1·77961		4·67205	1·78097		4·67154	1·78233		4·67102	1·78369		4·67050	1·78505	5
6		5·60709	2·13553		5·60647	2·13716		5·60584	2·13879		5·60522	2·14042		5·60460	2·14206	6
7		6·54160	2·49145		6·54088	2·49336		6·54015	2·49526		6·53943	2·49716		6·53870	2·49907	7
8		7·47612	2·84738		7·47529	2·84955		7·47446	2·85172		7·47363	2·85390		7·47280	2·85608	8
9		8·41063	3·20330		8·40970	3·20574		8·40877	3 20819		8·40784	3·21064		8·40690	3·21309	9
10	09	9·34515	3·55922	08	9·34412	3·56194	07	9·34308	3·56466	06	9·34204	3·56738	05	9·34100	3·57010	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 69.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·93909	0·34366	07	0·93899	0·34393	08	0·93889	0·34420	09	0·93879	0·34447	10	0·93869	0·34475	1
2		1·87818	0·68732		1·87798	0·68786		1·87778	0·68841		1·87758	0·68895		1·87738	0·68950	2
3		2·81728	1·03098		2·81698	1·03179		2·81668	1·03261		2·81638	1·03343		2·81608	1·03425	3
4		3·75637	1·37464		3·75597	1·37573		3·75557	1·37682		3·75517	1·37791		3·75477	1·37900	4
5		4·69547	1·71830		4·69497	1·71966		4·69447	1·72103		4·69397	1·72239		4·69346	1·72376	5
6		5·63456	2·06196		5·63396	2·06359		5·63336	2·06523		5·63276	2·06687		5·63216	2·06851	6
7		6·57365	2·40562		6·57295	2·40753		6·57225	2·40944		6·57155	2·41135		6·57085	2·41326	7
8		7·51275	2·74928		7·51195	2·75146		7·51115	2·75364		7·51035	2·75583		7·50955	2·75801	8
9		8·45184	3·09294		8·45094	3·09539		8·45004	3·09785		8·44914	3·10031		8·44824	3·10276	9
10	54	9·39094	3·43660	53	9·38994	3·43933	52	9·38894	3·44206	51	9·38794	3·44479	50	9·38693	3·44752	10
1	16	0·93809	0·34639	17	0·93799	0·34666	18	0·93788	0·34693	19	0·93778	0·34720	20	0·93768	0·34748	1
2		1·87618	0·69278		1·87598	0·69332		1·87577	0·69387		1·87557	0·69441		1·87537	0·69496	2
3		2·81427	1·03917		2·81397	1·03998		2·81366	1·04080		2·81336	1·04162		2·81306	1·04244	3
4		3·75236	1·38556		3·75196	1·38665		3·75155	1·38774		3·75115	1·38883		3·75074	1·38992	4
5		4·69045	1·73195		4·68995	1·73331		4·68944	1·73467		4·68894	1·73604		4·68843	1·73740	5
6		5·62854	2·07834		5·62794	2·07997		5·62733	2·08161		5·62672	2·08325		5·62612	2·08488	6
7		6·56663	2·42473		6·56593	2·42663		6·56522	2·42854		6·56451	2·43045		6·56380	2·43236	7
8		7·50472	2·77112		7·50392	2·77330		7·50311	2·77548		7·50230	2·77766		7·50149	2·77984	8
9		8·44281	3·11751		8·44191	3·11996		8·44100	3·12242		8·44009	3·12487		8·43918	3·12733	9
10	44	9·38090	3·46390	43	9·37990	3·46662	42	9·37889	3·46935	41	9·37788	3·47208	40	9·37687	3·47481	10
1	26	0·93707	0·34911	27	0·93697	0·34939	28	0·93687	0·34966	29	0·93677	0·34993	30	0·93667	0·35020	1
2		1·87415	0·69823		1·87395	0·69878		1·87375	0·69932		1·87354	0·69986		1·87334	0·70041	2
3		2·81123	1·04735		2·81093	1·04817		2·81062	1·04898		2·81032	1·04980		2·81001	1·05062	3
4		3·74831	1·39646		3·74790	1·39756		3·74750	1·39864		3·74709	1·39973		3·74668	1·40082	4
5		4·68539	1·74558		4·68488	1·74695		4·68437	1·74831		4·68387	1·74967		4·68336	1·75103	5
6		5·62247	2·09470		5·62186	2·09634		5·62125	2·09797		5·62064	2·09960		5·62003	2·10124	6
7		6·55955	2·44382		6·55884	2·44573		6·55813	2·44763		6·55741	2·44954		6·55670	2·45145	7
8		7·49663	2·79293		7·49581	2·79512		7·49500	2·79729		7·49419	2·79947		7·49337	2·80165	8
9		8·43371	3·14205		8·43279	3·14451		8·43188	3·14696		8·43096	3·14941		8·43004	3·15186	9
10	34	9·37079	3·49117	33	9·36977	3·49390	32	9·36875	3·49662	31	9·36774	3·49935	30	9·36672	3·50207	10
1	36	0·93606	0·35184	37	0·93595	0·35211	38	0·93585	0·35238	39	0·93575	0·35265	40	0·93565	0·35293	1
2		1·87212	0·70368		1·87191	0·70422		1·87170	0·70477		1·87150	0·70531		1·87130	0·70586	2
3		2·80818	1·05552		2·80787	1·05634		2·80756	1·05715		2·80725	1·05797		2·80695	1·05879	3
4		3·74424	1·40736		3·74382	1·40845		3·74341	1·40954		3·74300	1·41063		3·74260	1·41172	4
5		4·68030	1·75920		4·67978	1·76057		4·67927	1·76193		4·67876	1·76329		4·67825	1·76465	5
6		5·61636	2·11104		5·61574	2·11268		5·61512	2·11431		5·61451	2·11595		5·61390	2·11758	6
7		6·55242	2·46289		6·55169	2·46479		6·55098	2·46670		6·55026	2·46860		6·54955	2·47051	7
8		7·48848	2·81473		7·48765	2·81691		7·48683	2·81908		7·48601	2·82126		7·48520	2·82344	8
9		8·42454	3·16657		8·42361	3·16902		8·42269	3·17147		8·42176	3·17392		8·42085	3·17637	9
10	24	9·36060	3·51841	23	9·35957	3·52114	22	9·35854	3·52386	21	9·35752	3·52658	20	9·35650	3·52930	10
1	46	0·93503	0·35456	47	0·93492	0·35483	48	0·93482	0·35510	49	0·93472	0·35537	50	0·93461	0·35565	1
2		1·87006	0·70912		1·86985	0·70967		1·86965	0·71021		1·86944	0·71075		1·86923	0·71130	2
3		2·80509	1·06368		2·80478	1·06450		2·80447	1·06532		2·80416	1·06613		2·80385	1·06695	3
4		3·74012	1·41825		3·73971	1·41934		3·73930	1·42042		3·73888	1·42151		3·73847	1·42260	4
5		4·67516	1·77281		4·67464	1·77417		4·67412	1·77553		4·67361	1·77689		4·67309	1·77825	5
6		5·61019	2·12737		5·60957	2·12901		5·60895	2·13064		5·60833	2·13227		5·60771	2·13390	6
7		6·54522	2·48194		6·54450	2·48384		6·54377	2·48574		6·54305	2·48765		6·54233	2·48955	7
8		7·48025	2·83650		7·47943	2·83868		7·47860	2·84085		7·47777	2·84303		7·47695	2·84520	8
9		8·41528	3·19106		8·41436	3·19351		8·41343	3·19596		8·41250	3·19841		8·41157	3·20085	9
10	14	9·35032	3·54563	13	9·34929	3·54835	12	9·34825	3·55107	11	9·34722	3·55379	10	9·34619	3·55650	10
1	56	0·93399	0·35728	57	0·93389	0·35755	58	0·93378	0·35782	59	0·93368	0·35809	60	0·93358	0·35836	1
2		1·86799	0·71456		1·86778	0·71510		1·86757	0·71564		1·86736	0·71619		1·86716	0·71673	2
3		2·80199	1·07184		2·80167	1·07265		2·80136	1·07347		2·80105	1·07428		2·80074	1·07510	3
4		3·73598	1·42912		3·73557	1·43021		3·73515	1·43129		3·73473	1·43238		3·73432	1·43347	4
5		4·66998	1·78640		4·66946	1·78776		4·66894	1·78912		4·66842	1·79048		4·66790	1·79183	5
6		5·60398	2·14368		5·60335	2·14531		5·60273	2·14694		5·60210	2·14857		5·60148	2·15020	6
7		6·53797	2·50096		6·53724	2·50287		6·53652	2·50477		6·53579	2·50667		6·53506	2·50857	7
8		7·47197	2·85825		7·47114	2·86042		7·47031	2·86259		7·46947	2·86477		7·46864	2·86694	8
9		8·40597	3·21553		8·40503	3·21797		8·40409	3·22042		8·40316	3·22286		8·40222	3·22531	9
10	04	9·33996	3·57281	03	9·33892	3·57553	02	9·33788	3·57824	01	9·33684	3·58096	00	9·33580	3·58368	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

69 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·93347	0·35864	02	0·93337	0·35891	03	0·93326	0·35918	04	0·93316	0·35945	05	0·93305	0·35972	1
2		1·86695	0·71728		1·86674	0·71782		1·86653	0·71836		1·86632	0·71890		1·86611	0·71945	2
3		2·80042	1·07592		2·80011	1·07673		2·79980	1·07754		2·79948	1·07836		2·79917	1·07917	3
4		3·73390	1·43456		3·73348	1·43564		3·73306	1·43673		3·73265	1·43781		3·73223	1·43890	4
5		4·66738	1·79320		4·66685	1·79455		4·66633	1·79591		4·66581	1·79727		4·66529	1·79862	5
6		5·60085	2·15184		5·60023	2·15346		5·59960	2·15509		5·59897	2·15672		5·59834	2·15835	6
7		6·53433	2·51048		6·53360	2·51237		6·53287	2·51427		6·53213	2·51617		6·53140	2·51807	7
8		7·46780	2·86912		7·46697	2·87128		7·46613	2·87346		7·46530	2·87563		7·46446	2·87780	8
9		8·40128	3·22776		8·40034	3·23019		8·39940	3·23264		8·39846	3·23508		8·39752	3·23752	9
10	59	9·33476	3·58640	58	9·33371	3·58911	57	9·33267	3·59182	56	9·33162	3·59454	55	9·33058	3·59725	10
1	11	0·93242	0·36135	12	0·93232	0·36162	13	0·93221	0·36189	14	0·93211	0·36216	15	0·93200	0·36243	1
2		1·86485	0·72270		1·86464	0·72324		1·86443	0·72379		1·86422	0·72433		1·86401	0·72487	2
3		2·79728	1·08406		2·79697	1·08487		2·79665	1·08568		2·79633	1·08650		2·79602	1·08731	3
4		3·72971	1·44541		3·72929	1·44649		3·72887	1·44758		3·72845	1·44866		3·72803	1·44975	4
5		4·66214	1·80676		4·66161	1·80812		4·66109	1·80947		4·66056	1·81083		4·66004	1·81219	5
6		5·59457	2·16812		5·59394	2·16974		5·59331	2·17137		5·59267	2·17300		5·59204	2·17462	6
7		6·52700	2·52947		6·52626	2·53137		6·52553	2·53327		6·52479	2·53516		6·52405	2·53706	7
8		7·45943	2·89082		7·45859	2·89299		7·45774	2·89516		7·45690	2·89733		7·45606	2·89950	8
9		8·39186	3·25218		8·39091	3·25462		8·38996	3·25706		8·38901	3·25950		8·38807	3·26194	9
10	49	9·32429	3·61353	48	9·32323	3·61624	47	9·32218	3·61895	46	9·32113	3·62167	45	9·32008	3·62438	10
1	21	0·93137	0·36406	22	0·93126	0·36433	23	0·93116	0·36460	24	0·93105	0·36487	25	0·93095	0·36514	1
2		1·86274	0·72812		1·86253	0·72867		1·86232	0·72921		1·86211	0·72975		1·86190	0·73029	2
3		2·79412	1·09219		2·79380	1·09300		2·79348	1·09381		2·79316	1·09463		2·79285	1·09544	3
4		3·72549	1·45625		3·72507	1·45734		3·72464	1·45842		3·72422	1·45950		3·72380	1·46059	4
5		4·65687	1·82032		4·65634	1·82167		4·65581	1·82303		4·65527	1·82438		4·65475	1·82573	5
6		5·58824	2·18438		5·58760	2·18601		5·58697	2·18763		5·58633	2·18926		5·58570	2·19088	6
7		6·51961	2·54844		6·51887	2·55034		6·51813	2·55224		6·51739	2·55413		6·51665	2·55603	7
8		7·45099	2·91251		7·45014	2·91468		7·44929	2·91684		7·44844	2·91901		7·44760	2·92118	8
9		8·38236	3·27657		8·38141	3·27901		8·38045	3·28145		8·37950	3·28389		8·37855	3·28632	9
10	39	9·31374	3·64064	38	9·31268	3·64335	37	9·31162	3·64606	36	9·31055	3·64876	35	9·30950	3·65147	10
1	31	0·93031	0·36677	32	0·93020	0·36704	33	0·93009	0·36731	34	0·92999	0·36758	35	0·92988	0·36785	1
2		1·86062	0·73354		1·86040	0·73408		1·86019	0·73462		1·85998	0·73516		1·85976	0·73570	2
3		2·79093	1·10031		2·79061	1·10112		2·79029	1·10193		2·78997	1·10275		2·78965	1·10356	3
4		3·72124	1·46708		3·72081	1·46817		3·72038	1·46925		3·71996	1·47033		3·71953	1·47141	4
5		4·65155	1·83386		4·65102	1·83521		4·65048	1·83656		4·64995	1·83791		4·64941	1·83927	5
6		5·58186	2·20063		5·58122	2·20225		5·58058	2·20387		5·57994	2·20550		5·57930	2·20712	6
7		6·51217	2·56740		6·51142	2·56929		6·51068	2·57119		6·50993	2·57308		6·50918	2·57497	7
8		7·44248	2·93417		7·44163	2·93634		7·44077	2·93850		7·43992	2·94066		7·43906	2·94283	8
9		8·37279	3·30094		8·37183	3·30338		8·37087	3·30581		8·36991	3·30825		8·36895	3·31068	9
10	29	9·30311	3·66772	28	9·30204	3·67042	27	9·30097	3·67313	26	9·29990	3·67583	25	9·29883	3·67854	10
1	41	0·92924	0·36947	42	0·92913	0·36974	43	0·92902	0·37001	44	0·92891	0·37028	45	0·92881	0·37055	1
2		1·85848	0·73895		1·85826	0·73949		1·85805	0·74003		1·85783	0·74057		1·85762	0·74111	2
3		2·78772	1·10842		2·78739	1·10924		2·78707	1·11005		2·78675	1·11086		2·78643	1·11167	3
4		3·71696	1·47790		3·71653	1·47898		3·71610	1·48006		3·71566	1·48114		3·71524	1·48222	4
5		4·64620	1·84738		4·64566	1·84873		4·64512	1·85008		4·64458	1·85143		4·64405	1·85278	5
6		5·57544	2·21685		5·57479	2·21848		5·57415	2·22010		5·57350	2·22172		5·57286	2·22334	6
7		6·50468	2·58633		6·50392	2·58822		6·50317	2·59011		6·50242	2·59201		6·50167	2·59390	7
8		7·43392	2·95581		7·43306	2·95797		7·43220	2·96013		7·43133	2·96229		7·43048	2·96445	8
9		8·36316	3·32528		8·36219	3·32772		8·36122	3·33015		8·36025	3·33258		8·35929	3·33501	9
10	19	9·29240	3·69476	18	9·29132	3·69746	17	9·29025	3·70017	16	9·28917	3·70287	15	9·28810	3·70557	10
1	51	0·92816	0·37217	52	0·92805	0·37244	53	0·92794	0·37271	54	0·92783	0·37298	55	0·92772	0·37325	1
2		1·85632	0·74435		1·85610	0·74489		1·85588	0·74543		1·85567	0·74597		1·85545	0·74651	2
3		2·78448	1·11653		2·78415	1·11734		2·78383	1·11815		2·78350	1·11896		2·78318	1·11977	3
4		3·71264	1·48871		3·71221	1·48979		3·71177	1·49087		3·71134	1·49195		3·71091	1·49303	4
5		4·64080	1·86089		4·64026	1·86224		4·63972	1·86359		4·63918	1·86493		4·63863	1·86628	5
6		5·56896	2·23306		5·56831	2·23468		5·56766	2·23630		5·56701	2·23792		5·56636	2·23954	6
7		6·49712	2·60524		6·49637	2·60713		6·49561	2·60902		6·49485	2·61091		6·49409	2·61280	7
8		7·42529	2·97742		7·42442	2·97958		7·42355	2·98174		7·42269	2·98390		7·42182	2·98606	8
9		8·35345	3·34960		8·35247	3·35203		8·35150	3·35446		8·35052	3·35689		8·34954	3·35931	9
10	09	9·28161	3·72178	08	9·28053	3·72448	07	9·27944	3·72718	06	9·27836	3·72987	05	9·27727	3·73257	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·93295	0·35999	07	0·93284	0·36026	08	0·93274	0·36054	09	0·93263	0·36081	10	0·93253	0·36108	1
2		1·86590	0·71999		1·86569	0·72053		1·86548	0·72108		1·86527	0·72162		1·86506	0·72216	2
3		2·79886	1·07999		2·79854	1·08080		2·79823	1·08162		2·79791	1·08243		2·79760	1·08324	3
4		3·73181	1·43998		3·73139	1·44107		3·73097	1·44216		3·73055	1·44324		3·73013	1·44432	4
5		4·66476	1·79998		4·66424	1·80134		4·66372	1·80270		4·66319	1·80405		4·66267	1·80541	5
6		5·59772	2·15998		5·59709	2·16160		5·59646	2·16324		5·59583	2·16486		5·59520	2·16649	6
7		6·53067	2·51997		6·52994	2·52187		6·52920	2·52378		6·52847	2·52567		6·52773	2·52757	7
8		7·46362	2 87997		7·46279	2·88214		7·46195	2·88432		7·46111	2·88648		7·46027	2·88865	8
9		8·39658	3·23997		8·39563	3·24241		8·39469	3·24486		8·39375	3·24729		8·39280	3·24973	9
10	54	9·32953	3·59996	53	9·32848	3·60268	52	9·32744	3·60540	51	9·32639	3·60810	50	9·32534	3·61082	10
1	16	0·93190	0·36270	17	0·93179	0·36298	18	0·93169	0·36325	19	0·93158	0·36352	20	0·93147	0·36379	1
2		1·86380	0·72541		1·86359	0·72596		1·86338	0·72650		1·86317	0·72704		1·86295	0·72758	2
3		2·79570	1·08812		2·79539	1·08894		2·79507	1·08975		2·79475	1·09056		2·79443	1·09137	3
4		3·72760	1·45083		3·72718	1·45192		3·72676	1·45300		3·72634	1·45408		3·72591	1·45517	4
5		4·65951	1·81354		4·65898	1·81490		4·65845	1·81625		4·65792	1·81761		4·65739	1·81896	5
6		5·59141	2·17625		5·59078	2·17788		5·59014	2·17950		5·58951	2·18113		5·58887	2·18275	6
7		6·52331	2·53896		6·52258	2·54086		6·52183	2·54275		6·52109	2·54465		6·52035	2·54655	7
8		7·45521	2·90167		7·45437	2·90384		7·45352	2·90600		7·45268	2·90817		7·45183	2·91034	8
9		8·38712	3·26438		8·38617	3·26682		8·38522	3·26926		8·38426	3·27169		8·38331	3·27413	9
10	44	9·31902	3·62709	43	9·31797	3·62980	42	9·31691	3·63251	41	9·31585	3·63522	40	9·31479	3·63793	10
1	26	0·93084	0·36541	27	0·93073	0·36568	28	0·93063	0·36596	29	0·93052	0·36623	30	0·93041	0·36650	1
2		1·86168	0·73083		1·86147	0·73137		1·86126	0·73192		1·86104	0·73246		1·86083	0·73300	2
3		2·79253	1·09625		2·79221	1·09706		2·79189	1·09788		2·79157	1·09869		2·79125	1·09950	3
4		3·72337	1·46167		3·72294	1·46275		3·72252	1·46384		3·72209	1·46492		3·72167	1·46600	4
5		4·65421	1·82709		4·65368	1·82844		4·65315	1·82980		4·65262	1·83115		4·65208	1·83250	5
6		5·58506	2·19251		5·58442	2·19413		5·58378	2·19576		5·58314	2·19738		5·58250	2·19900	6
7		6·51590	2·55792		6·51515	2·55982		6·51441	2·56172		6·51366	2·56361		6·51292	2·56550	7
8		7·44674	2·92334		7·44589	2·92551		7·44504	2·92768		7·44419	2·92984		7·44334	2·93200	8
9		8·37759	3·28876		8·37663	3·29120		8·37567	3·29364		8·37471	3·29607		8·37375	3·29851	9
10	34	9·30843	3·65418	33	9·30737	3·65689	32	9·30630	3·65960	31	9·30524	3·66230	30	9·30417	3·66501	10
1	36	0·92977	0·36812	37	0·92966	0·36839	38	0·92956	0·36866	39	0·92945	0·36893	40	0·92934	0·36920	1
2		1·85955	0·73624		1·85933	0·73679		1·85912	0 73733		1·85890	0·73787		1·85869	0·73841	2
3		2·78932	1·10437		2·78900	1·10518		2·78868	1·10599		2·78836	1·10680		2·78804	1·10761	3
4		3·71910	1·47249		3·71867	1·47358		3·71824	1·47466		3·71781	1·47574		3·71739	1·47682	4
5		4·64888	1·84062		4·64834	1·84197		4·64781	1·84332		4·64727	1·84467		4·64673	1·84603	5
6		5·57865	2·20874		5·57801	2·21037		5·57737	2·21199		5·57672	2·21361		5·57608	2·21523	6
7		6·50843	2·57687		6·50768	2·57876		6·50693	2·58065		6·50618	2·58255		6·50543	2·58444	7
8		7·43821	2·94499		7·43735	2·94716		7·43649	2·94932		7·43563	2·95148		7·43478	2·95364	8
9		8·36798	3·31312		8·36702	3·31555		8·36605	3·31798		8·36509	3·32042		8·36412	3·32285	9
10	24	9·29776	3·68124	23	9·29669	3·68395	22	9·29562	3·68665	21	9·29455	3·68935	20	9·29347	3·69206	10
1	46	0·92870	0·37082	47	0·92859	0·37109	48	0·92848	0·37136	49	0·92837	0·37163	50	0·92827	0·37190	1
2		1·85740	0·74165		1·85718	0·74219		1·85697	0·74273		1·85675	0·74327		1·85654	0·74381	2
3		2·78610	1·11248		2·78578	1·11329		2·78545	1·11410		2·78513	1·11491		2·78481	1·11572	3
4		3·71480	1·48331		3·71437	1·48439		3·71394	1·48547		3·71351	1·48655		3·71308	1·48763	4
5		4·64350	1·85413		4·64296	1·85548		4·64242	1·85683		4·64188	1·85819		4·64135	1·85954	5
6		5·57221	2·22496		5·57156	2·22658		5·57091	2·22820		5·57026	2·22982		5·56962	2·23144	6
7		6·50091	2·59579		6·50015	2·59768		6·49940	2·59957		6·49864	2·60146		6·49789	2·60335	7
8		7·42961	2·96662		7·42875	2·96878		7·42788	2·97094		7·42702	2·97310		7·42616	2·97526	8
9		8·35831	3·33744		8·35734	3 33987		8·35637	3·34231		8·35540	3·34474		8·35443	3·34717	9
10	14	9·28701	3·70827	13	9·28593	3·71097	12	9·28485	3·71367	11	9·28377	3·71638	10	9·28270	3·71908	10
1	56	0·92761	0·37352	57	0·92751	0·37379	58	0·92740	0·37406	59	0·92729	0·37433	60	0·92718	0·37460	1
2		1·85523	0·74705		1·85502	0·74759		1·85480	0·74813		1·85458	0·74867		1·85436	0·74921	2
3		2·78285	1·12058		2·78253	1·12139		2·78220	1·12220		2·78187	1·12301		2·78155	1·12381	3
4		3·71047	1·49411		3·71004	1·49518		3·70960	1·49626		3·70917	1·49734		3·70873	1·49842	4
5		4·63809	1·86763		4·63755	1·86898		4·63700	1·87033		4·63646	1·87168		4·63591	1·87303	5
6		5·56571	2·24116		5·56506	2·24278		5·56440	2·24440		5·56375	2·24602		5·56310	2·24763	6
7		6·49333	2·61469		6·49257	2·61658		6·49181	2·61846		6·49104	2·62035		6·49028	2·62224	7
8		7·42095	2·98822		7·42008	2·99037		7·41921	2·99253		7·41834	2·99469		7·41747	2·99685	8
9		8·34857	3·36174		8·34759	3·36417		8·34661	3·36660		8·34563	3·36903		8·34465	3·37145	9
10	04	9·27619	3·73527	03	9·27510	3·73797	02	9·27401	3·74067	01	9·27292	3·74337	00	9·27184	3·74606	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat	Dep.	M.	Lat.	Dep.	D.
1	01	0·92707	0·37487	02	0·92696	0·37514	03	0·92685	0·37541	04	0·92674	0·37568	05	0·92663	0·37595	1
2		1·85414	0·74975		1·85393	0·75029		1·85371	0·75083		1·85349	0·75137		1·85327	0·75190	2
3		2·78122	1·12462		2·78089	1·12543		2·78056	1·12624		2·78024	1·12705		2·77991	1·12786	3
4		3·70829	1·49950		3·70786	1·50058		3·70742	1·50166		3·70698	1·50274		3·70655	1·50381	4
5		4·63537	1·87438		4·63482	1·87573		4·63428	1·87707		4·63373	1 87842		4·63319	1·87977	5
6		5·56244	2·24925		5·56179	2·25087		5·56113	2·25249		5·56048	2·25411		5·55982	2·25572	6
7		6·48952	2·62413		6·48876	2·62602		6·48799	2·62790		6·48723	2·62979		6·48646	2·63168	7
8		7·41659	2·99901		7·41572	3·00116		7·41485	3·00332		7·41397	3·00548		7·41310	3·00763	8
9		8·34367	3·37388		8·34269	3·37631		8·34170	3·37874		8·34072	3·38116		8·33974	3·38359	9
10	59	9·27074	3·74876	58	9·26965	3·75146	57	9·26856	3·75415	56	9·26747	3·75685	55	9·26638	3·75954	10
1	11	0·92598	0·37757	12	0·92587	0·37784	13	0·92576	0·37811	14	0·92565	0·37837	15	0·92554	0·37864	1
2		1·85196	0·75514		1·85174	0·75568		1·85152	0·75622		1·85130	0·75675		1·85108	0·75729	2
3		2·77794	1·13271		2·77761	1·13352		2·77728	1·13433		2·77695	1·13513		2·77662	1·13594	3
4		3·70392	1·51028		3·70348	1·51136		3·70304	1·51244		3·70260	1·51351		3·70216	1·51459	4
5		4·62990	1·88785		4·62935	1·88920		4·62880	1·89055		4·62825	1·89189		4·62770	1·89324	5
6		5·55588	2·26542		5·55522	2·26704		5·55456	2·26866		5·55390	2·27027		5·55324	2·27189	6
7		6·48186	2·64299		6·48109	2·64488		6·48032	2·64677		6·47955	2·64865		6·47878	2·65054	7
8		7·40784	3·02057		7·40696	3·02272		7·40608	3·02488		7·40520	3·02703		7·40432	3·02918	8
9		8·33382	3·39814		8·33283	3·40056		8·33184	3·40299		8·33085	3·40541		8·32986	3·40783	9
10	49	9·25980	3·77571	48	9·25870	3·77840	47	9·25760	3·78110	46	9·25650	3·78379	45	9·25540	3·78648	10
1	21	0·92487	0·38026	22	0·92476	0·38053	23	0·92465	0·38080	24	0·92454	0·38107	25	0·92443	0·38133	1
2		1·84975	0·76052		1·84953	0·76106		1·84931	0·76160		1·84909	0·76214		1·84887	0·76267	2
3		2·77463	1·14079		2·77430	1·14159		2·77397	1·14240		2·77363	1·14321		2·77330	1·14401	3
4		3·69951	1·52105		3·69907	1·52212		3·69862	1·52320		3·69818	1·52428		3·69774	1·52535	4
5		4·62439	1·90131		4·62383	1·90266		4·62328	1·90400		4·62273	1·90535		4·62217	1·90669	5
6		5·54926	2·28158		5·54860	2·28319		5·54794	2·28480		5·54727	2·28642		5·54661	2·28803	6
7		6·47414	2·66184		6·47337	2·66372		6·47259	2·66560		6·47182	2·66749		6·47104	2·66937	7
8		7·39902	3·04210		7·39814	3·04425		7·39725	3·04641		7·39636	3·04856		7·39548	3·05071	8
9		8·32390	3·42237		8·32290	3·42479		8·32191	3·42721		8·32091	3·42963		8·31991	3·43205	9
10	39	9·24878	3·80263	38	9·24767	3·80532	37	9·24656	3·80801	36	9·24546	3·81070	35	9·24435	3·81339	10
1	31	0·92376	0·38295	32	0·92365	0·38322	33	0·92354	0·38348	34	0·92343	0·38375	35	0·92332	0·38402	1
2		1·84753	0·76590		1·84731	0·76644		1·84709	0·76697		1·84686	0·76751		1·84664	0·76805	2
3		2·77130	1·14885		2·77097	1·14966		2·77063	1·15046		2·77030	1·15127		2·76996	1·15208	3
4		3·69507	1·53180		3·69462	1·53288		3·69418	1·53395		3·69373	1·53503		3·69328	1·53610	4
5		4·61884	1·91476		4·61828	1·91610		4·61772	1·91744		4·61716	1·91879		4·61661	1·92013	5
6		5·54260	2·29771		5·54194	2·29932		5·54127	2·30093		5·54060	2·30254		5·53993	2·30416	6
7		6·46637	2·68066		6·46559	2·68254		6·46481	2·68442		6·46403	2·68630		6·46325	2·68818	7
8		7·39014	3·06361		7·38925	3·06576		7·38836	3·06791		7·38746	3·07006		7·38657	3·07221	8
9		8·31391	3·44656		8·31291	3·44898		8·31190	3·45140		8·31090	3·45382		8·30989	3·45624	9
10	29	9·23768	3·82952	28	9·23656	3·83221	27	9·23545	3·83489	26	9·23433	3·83758	25	9·23322	3·84026	10
1	41	0·92265	0·38563	42	0·92253	0·38590	43	0·92242	0·38617	44	0·92231	0·38644	45	0·92220	0·38671	1
2		1·84530	0·77127		1·84507	0·77181		1·84485	0·77234		1·84462	0·77288		1·84440	0 77342	2
3		2·76795	1·15691		2·76761	1·15771		2·76727	1·15852		2·76694	1·15932		2·76660	1·16013	3
4		3·69060	1·54255		3·69015	1·54362		3·68970	1·54469		3·68925	1·54577		3·68880	1·54684	4
5		4·61325	1·92818		4·61269	1·92953		4·61212	1·93087		4 61156	1·93221		4·61100	1·93355	5
6		5·53590	2·31382		5·53522	2·31543		5·53455	2·31704		5·53388	2·31865		5·53320	2·32026	6
7		6·45855	2·69946		6·45776	2·70134		6·45698	2·70322		6·45619	2·70509		6·45540	2·70697	7
8		7·38120	3·08510		7·38030	3·08724		7·37940	3·08939		7·37850	3·09154		7·37760	3·09368	8
9		8·30385	3·47073		8·30284	3·47315		8·30183	3·47556		8·30082	3·47798		8·29980	3·48039	9
10	19	9·22650	3·85637	18	9·22538	3·85906	17	9·22425	3·86174	16	9·22313	3·86442	15	9·22201	3·86711	10
1	51	0·92152	0·38832	52	0·92141	0·38858	53	0·92129	0·38885	54	0·92118	0·38912	55	0·92107	0 38939	1
2		1·84304	0·77664		1·84282	0·77717		1·84259	0·77771		1·84237	0·77824		1·84214	0·77878	2
3		2·76457	1·16496		2·76423	1·16576		2·76389	1·16656		2·76355	1·16737		2·76321	1·16817	3
4		3·68609	1·55328		3·68564	1·55435		3·68519	1·55542		3·68474	1·55649		3·68428	1·55756	4
5		4·60762	1·94160		4·60705	1·94294		4·60649	1·94428		4·60592	1·94562		4·60536	1·94696	5
6		5·52914	2·32992		5·52846	2·33152		5·52779	2·33313		5·52711	2·33474		5·52643	2·33635	6
7		6·45067	2·71824		6·44988	2·72011		6·44909	2·72199		6·44829	2 72386		6·44750	2·72574	7
8		7·37219	3·10656		7·37129	3·10870		7·37038	3·11084		7·36948	3·11299		7·36857	3·11513	8
9		8·29372	3·49488		8·29270	3·49729		8·29168	3·49970		8·29066	3·50211		8·28964	3·50452	9
10	09	9·21524	3·88320	08	9·21411	3·88588	07	9·21298	3·88856	06	9·21185	3·89124	05	9·21072	3·89392	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dcp.	Lat.	M	Dep.	Lat.	D.

22 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·92652	0·37622	07	0·92641	0·37649	08	0·92631	0·37676	09	0·92620	0·37703	10	0·92609	0·37730	1
2		1·85305	0·75244		1·85283	0·75298		1·85262	0·75352		1·85240	0·75406		1·85218	0·75460	2
3		2·77958	1·12867		2·77925	1·12948		2·77893	1·13028		2·77860	1·13109		2·77827	1·13190	3
4		3·70611	1·50489		3·70567	1·50597		3·70524	1·50705		3·70480	1·50813		3·70436	1·50920	4
5		4·63264	1·88112		4·63209	1·88246		4·63155	1·88381		4·63100	1·88516		4·63045	1·88651	5
6		5·55917	2·25734		5·55851	2·25896		5·55786	2·26057		5·55720	2·26219		5·55654	2·26381	6
7		6·48570	2·63357		6·48493	2·63545		6·48417	2·63734		6·48340	2·63922		6·48263	2·64111	7
8		7·41222	3·00979		7·41135	3·01195		7·41048	3·01410		7·40960	3·01626		7·40872	3·01841	8
9		8·33875	3·38601		8·33777	3·38844		8·33679	3·39086		8·33580	3·39329		8·33481	3·39571	9
10	54	9·26528	3·76224	53	9·26419	3·76493	52	9·26310	3·76763	51	9·26200	3·77032	50	9·26090	3·77302	10
1	16	0·92543	0·37891	17	0·92532	0·37918	18	0·92521	0·37945	19	0·92509	0·37972	20	0·92498	0·37999	1
2		1·85086	0·75783		1·85064	0·75837		1·85042	0·75891		1·85019	0·75945		1·84997	0·75998	2
3		2·77629	1·13675		2·77596	1·13756		2·77563	1·13836		2·77529	1·13917		2·77496	1·13998	3
4		3·70172	1·51567		3·70128	1·51674		3·70084	1·51782		3·70039	1·51890		3·69995	1·51997	4
5		4·62715	1·89458		4·62660	1·89593		4·62605	1·89728		4·62549	1·89862		4·62494	1·89997	5
6		5·55258	2·27350		5·55192	2·27512		5·55126	2·27673		5·55059	2·27835		5·54993	2·27996	6
7		6·47801	2·65242		6·47724	2·65430		6·47647	2·65619		6·47569	2·65807		6·47492	2·65996	7
8		7·40344	3·03134		7·40256	3·03349		7·40168	3·03564		7·40079	3·03780		7·39991	3·03995	8
9		8·32887	3·41026		8·32788	3·41268		8·32689	3·41510		8·32589	3·41752		8·32489	3·41994	9
10	44	9·25430	3·78917	43	9·25320	3·79187	42	9·25210	3·79456	41	9·25099	3·79725	40	9·24988	3·79994	10
1	26	0·92432	0·38160	27	0·92421	0·38187	28	0·92410	0·38214	29	0·92399	0·38241	30	0·92388	0·38268	1
2		1·84864	0·76321		1·84842	0·76375		1·84820	0·76429		1·84798	0·76482		1·84776	0·76536	2
3		2·77297	1·14482		2·77263	1·14563		2·77230	1·14643		2·77197	1·14724		2·77164	1·14805	3
4		3·69729	1·52643		3·69685	1·52750		3·69640	1·52858		3·69596	1·52965		3·69552	1·53073	4
5		4·62162	1·90804		4·62106	1·90938		4·62051	1·91073		4·61995	1·91207		4·61940	1·91341	5
6		5·54594	2·28964		5·54527	2·29126		5·54461	2·29287		5·54394	2·29448		5·54328	2·29610	6
7		6·47026	2·67125		6·46949	2·67313		6·46871	2·67502		6·46793	2·67690		6·46716	2·67878	7
8		7·39459	3·05286		7·39370	3·05501		7·39281	3·05716		7·39192	3·05931		7·39104	3·06146	8
9		8·31891	3·43447		8·31791	3·43689		8·31691	3·43931		8·31591	3·44173		8·31492	3·44415	9
10	34	9·24324	3·81608	33	9·24213	3·81877	32	9·24102	3·82146	31	9·23990	3·82414	30	9·23880	3·82683	10
1	36	0·92321	0·38429	37	0·92309	0·38456	38	0·92298	0·38483	39	0·92287	0·38510	40	0·92276	0·38536	1
2		1·84642	0·76859		1·84619	0·76912		1·84597	0·76966		1·84574	0·77020		1·84552	0·77073	2
3		2·76963	1·15288		2·76929	1·15369		2·76895	1·15449		2·76862	1·15530		2·76828	1·15610	3
4		3·69284	1·53718		3·69239	1·53825		3·69194	1·53932		3·69149	1·54040		3·69104	1·54147	4
5		4·61605	1·92147		4·61549	1·92282		4·61493	1·92416		4·61437	1·92550		4·61381	1·92684	5
6		5·53926	2·30577		5·53859	2·30738		5·53791	2·30899		5·53724	2·31060		5·53657	2·31221	6
7		6·46247	2·69006		6·46168	2·69194		6·46090	2·69382		6·46012	2·69570		6·45933	2·69758	7
8		7·38568	3·07436		7·38478	3·07651		7·38389	3·07865		7·38299	3·08080		7·38209	3·08295	8
9		8·30889	3·45865		8·30788	3·46107		8·30687	3·46349		8·30587	3·46590		8·30486	3·46832	9
10	24	9·23210	3·84295	23	9·23098	3·84564	22	9·22986	3·84832	21	9·22874	3·85100	20	9·22762	3·85369	10
1	46	0·92208	0·38697	47	0·92197	0·38724	48	0·92186	0·38751	49	0·92175	0·38778	50	0·92163	0·38805	1
2		1·84417	0·77395		1·84395	0·77449		1·84372	0·77503		1·84350	0·77556		1·84327	0·77610	2
3		2·76626	1·16093		2·76592	1·16174		2·76558	1·16254		2·76525	1·16335		2·76491	1·16415	3
4		3·68835	1·54791		3·68790	1·54898		3·68745	1·55006		3·68700	1·55113		3·68655	1·55220	4
5		4·61044	1·93489		4·60987	1·93623		4·60931	1·93757		4·60875	1·93891		4·60818	1·94025	5
6		5·53253	2·32187		5·53185	2·32348		5·53117	2·32509		5·53050	2·32670		5·52982	2·32831	6
7		6·45461	2·70885		6·45383	2·71073		6·45304	2·71260		6·45225	2·71448		6·45146	2·71636	7
8		7·37670	3·09583		7·37580	3·09797		7·37490	3·10012		7·37400	3·10226		7·37310	3·10441	8
9		8·29879	3·48281		8·29778	3·48522		8·29676	3·48764		8·29575	3·49005		8·29473	3·49246	9
10	14	9·22088	3·86979	13	9·21975	3·87247	12	9·21863	3·87515	11	9·21750	3·87783	10	9·21637	3·88051	10
1	56	0·92095	0·38966	57	0·92084	0·38992	58	0·92073	0·39019	59	0·92061	0·39046	60	0·92050	0·39073	1
2		1·84191	0·77932		1·84169	0·77985		1·84146	0·78039		1·84123	0·78092		1·84100	0·78146	2
3		2·76287	1·16898		2·76253	1·16978		2·76219	1·17058		2·76185	1·17138		2·76151	1·17219	3
4		3·68383	1·55864		3·68338	1·55971		3·68292	1·56078		3·68247	1·56185		3·68201	1·56292	4
5		4·60479	1·94830		4·60422	1·94963		4·60366	1·95097		4·60309	1·95231		4·60252	1·95365	5
6		5·52575	2·33796		5·52507	2·33956		5·52439	2·34117		5·52371	2·34277		5·52302	2·34438	6
7		6·44671	2·72762		6·44591	2·72949		6·44512	2·73136		6·44432	2·73324		6·44353	2·73511	7
8		7·36767	3·11728		7·36676	3·11942		7·36585	3·12156		7·36494	3·12370		7·36403	3·12584	8
9		8·28863	3·50694		8·28761	3·50934		8·28658	3·51175		8·28556	3·51416		8·28454	3·51657	9
10	04	9·20959	3·89660	03	9·20845	3·89927	02	9·20732	3·90195	01	9·20618	3·90463	00	9·20505	3·90731	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

67 DEG.

LIBRARY OF THE UNIVERSITY OF CALIFORNIA

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·92039	0·39099	02	0·92027	0·39126	03	0·92016	0·39153	04	0·92005	0·39180	05	0·91993	0·39207	1
2		1·84078	0·78199		1·84055	0·78253		1·84032	0·78306		1·84010	0·78360		1·83987	0·78414	2
3		2·76117	1·17299		2·76083	1·17379		2·76049	1·17460		2·76015	1·17540		2·75980	1·17621	3
4		3·68156	1·56399		3·68110	1·56506		3·68065	1·56613		3·68020	1·56720		3·67974	1·56828	4
5		4·60195	1·95499		4·60138	1·95633		4·60081	1·95767		4·60025	1·95901		4·59967	1·96035	5
6		5·52234	2·34599		5·52166	2·34759		5·52098	2·34920		5·52030	2·35081		5·51961	2·35242	6
7		6·44273	2·73699		6·44194	2·73886		6·44114	2·74074		6·44035	2·74261		6·43954	2·74449	7
8		7·36312	3·12799		7·36221	3·13013		7·36130	3·13227		7·36040	3·13441		7·35948	3·13656	8
9		8·28352	3·51899		8·28249	3·52139		8·28147	3·52380		8·28045	3·52621		8·27942	3·52863	9
10	59	9·20391	3·90999	58	9·20277	3·91266	57	9·20163	3·91534	56	9·20050	3·91802	55	9·19935	3·92070	10
1	11	0·91925	0·39367	12	0·91913	0·39394	13	0·91902	0·39420	14	0·91890	0·39447	15	0·91879	0·39474	1
2		1·83850	0·78734		1·83827	0·78788		1·83804	0·78841		1·83781	0·78895		1·83758	0·78948	2
3		2·75775	1·18102		2·75740	1·18182		2·75706	1·18262		2·75671	1·18342		2·75637	1·18423	3
4		3·67700	1·57469		3·67654	1·57576		3·67608	1·57683		3·67562	1·57790		3·67516	1·57897	4
5		4·59625	1·96837		4·59567	1·96971		4·59510	1·97104		4·59453	1·97238		4·59395	1·97372	5
6		5·51550	2·36204		5·51481	2·36365		5·51412	2·36525		5·51343	2·36685		5·51274	2·36846	6
7		6·43475	2·75572		6·43394	2·75759		6·43314	2·75946		6·43234	2·76133		6·43153	2·76320	7
8		7·35400	3·14939		7·35308	3·15153		7·35216	3·15367		7·35124	3·15581		7·35032	3·15795	8
9		8·27325	3·54307		8·27221	3·54547		8·27118	3·54788		8·27015	3·55028		8·26912	3·55269	9
10	49	9·19250	3·93674	48	9·19135	3·93942	47	9·19020	3·94209	46	9·18906	3·94476	45	9·18791	3·94744	10
1	21	0·91810	0·39634	22	0·91798	0·39661	23	0·91787	0·39688	24	0·91775	0·39714	25	0·91763	0·39741	1
2		1·83620	0·79269		1·83597	0·79322		1·83574	0·79376		1·83550	0·79429		1·83527	0·79482	2
3		2·75430	1·18904		2·75395	1·18984		2·75361	1·19064		2·75326	1·19144		2·75291	1·19224	3
4		3·67240	1·58538		3·67194	1·58645		3·67148	1·58752		3·67101	1·58859		3·67055	1·58965	4
5		4·59050	1·98173		4·58992	1·98307		4·58935	1·98440		4·58877	1·98574		4·58819	1·98707	5
6		5·50860	2·37808		5·50791	2·37968		5·50722	2·38128		5·50652	2·38288		5·50583	2·38448	6
7		6·42670	2·77442		6·42589	2·77629		6·42509	2·77816		6·42428	2·78003		6·42347	2·78190	7
8		7·34480	3·17077		7·34388	3·17291		7·34296	3·17504		7·34203	3·17718		7·34111	3·17931	8
9		8·26290	3·56712		8·26186	3·56952		8·26083	3·57192		8·25979	3·57433		8·25875	3·57673	9
10	39	9·18101	3·96346	38	9·17985	3·96614	37	9·17870	3·96881	36	9·17754	3·97148	35	9·17639	3·97414	10
1	31	0·91694	0·39901	32	0·91682	0·39928	33	0·91671	0·39954	34	0·91659	0·39981	35	0·91647	0·40008	1
2		1·83388	0·79803		1·83365	0·79856		1·83342	0·79909		1·83319	0·79963		1·83295	0·80016	2
3		2·75083	1·19704		2·75048	1·19784		2·75013	1·19864		2·74978	1·19944		2·74943	1·20024	3
4		3·66777	1·59606		3·66731	1·59713		3·66684	1·59819		3·66638	1·59926		3·66591	1·60033	4
5		4·58472	1·99507		4·58414	1·99641		4·58355	1·99774		4·58297	1·99907		4·58239	2·00041	5
6		5·50166	2·39409		5·50096	2·39569		5·50027	2·39729		5·49957	2·39889		5·49887	2·40049	6
7		6·41860	2·79311		6·41779	2·79497		6·41698	2·79684		6·41616	2·79871		6·41535	2·80057	7
8		7·33555	3·19212		7·33462	3·19426		7·33369	3·19639		7·33276	3·19852		7·33183	3·20066	8
9		8·25249	3·59114		8·25145	3·59354		8·25040	3·59594		8·24935	3·59834		8·24831	3·60074	9
10	29	9·16944	3·99015	28	9·16828	3·99282	27	9·16711	3·99549	26	9·16595	3·99815	25	9·16479	4·00082	10
1	41	0·91578	0·40168	42	0·91566	0·40194	43	0·91554	0·40221	44	0·91542	0·40248	45	0·91531	0·40274	1
2		1·83156	0·80336		1·83132	0·80389		1·83109	0·80442		1·83085	0·80496		1·83062	0·80549	2
3		2·74734	1·20504		2·74698	1·20584		2·74663	1·20664		2·74628	1·20744		2·74593	1·20824	3
4		3·66312	1·60672		3·66265	1·60779		3·66218	1·60885		3·66171	1·60992		3·66124	1·61098	4
5		4·57890	2·00840		4·57831	2·00973		4·57772	2·01107		4·57714	2·01240		4·57655	2·01373	5
6		5·49468	2·41008		5·49397	2·41168		5·49327	2·41328		5·49257	2·41488		5·49186	2·41648	6
7		6·41046	2·81176		6·40963	2·81363		6·40881	2·81549		6·40800	2·81736		6·40718	2·81922	7
8		7·32624	3·21345		7·32530	3·21558		7·32436	3·21771		7·32342	3·21984		7·32249	3·22197	8
9		8·24202	3·61513		8·24096	3·61753		8·23991	3·61992		8·23885	3·62232		8·23780	3·62472	9
10	19	9·15780	4·01681	18	9·15662	4·01947	17	9·15545	4·02214	16	9·15428	4·02480	15	9·15311	4·02746	10
1	51	0·91460	0·40434	52	0·91449	0·40461	53	0·91437	0·40487	54	0·91425	0·40514	55	0·91413	0·40540	1
2		1·82921	0·80868		1·82898	0·80922		1·82874	0·80975		1·82850	0·81028		1·82827	0·81081	2
3		2·74382	1·21303		2·74347	1·21383		2·74311	1·21462		2·74276	1·21542		2·74240	1·21622	3
4		3·65842	1·61737		3·65796	1·61844		3·65748	1·61950		3·65701	1·62056		3·65654	1·62163	4
5		4·57303	2·02171		4·57245	2·02305		4·57185	2·02437		4·57127	2·02570		4·57068	2·02703	5
6		5·48764	2·42606		5·48694	2·42766		5·48623	2·42925		5·48552	2·43084		5·48481	2·43244	6
7		6·40225	2·83040		6·40143	2·83227		6·40060	2·83412		6·39977	2·83599		6·39895	2·83785	7
8		7·31685	3·23474		7·31592	3·23688		7·31497	3·23900		7·31403	3·24113		7·31308	3·24326	8
9		8·23146	3·63909		8·23041	3·64149		8·22934	3·64388		8·22828	3·64627		8·22722	3·64866	9
10	09	9·14607	4·04343	08	9·14490	4·04610	07	9·14371	4·04875	06	9·14254	4·05141	05	9·14136	4·05407	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 66.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·91982	0·39233	07	0·91970	0·39260	08	0·91959	0·39287	09	0·91947	0·39314	10	0·91936	0·39340	1
2		1·83964	0·78467		1·83941	0·78520		1·83918	0·78574		1·83895	0·78628		1·83872	0·78681	2
3		2·75946	1·17701		2·75912	1·17781		2·75877	1·17861		2·75843	1·17942		2·75809	1·18022	3
4		3·67928	1·56934		3·67882	1·57041		3·67837	1·57148		3·67791	1·57256		3·67745	1·57362	4
5		4·59910	1·96168		4·59853	1·96302		4·59796	1·96436		4·59739	1·96570		4·59682	1·96703	5
6		5·51892	2·35402		5·51824	2·35562		5·51755	2·35723		5·51687	2·35884		5·51618	2·36044	6
7		6·43875	2·74635		6·43795	2·74823		6·43715	2·75010		6·43635	2·75198		6·43555	2·75384	7
8		7·35857	3·13869		7·35765	3·14083		7·35674	3·14297		7·35583	3·14512		7·35491	3·14725	8
9		8·27839	3·53103		8·27736	3·53344		8·27633	3·53584		8·27530	3·53826		8·27427	3·54066	9
10	54	9·19821	3·92337	53	9·19707	3·92604	52	9·19593	3·92872	51	9·19478	3·93140	50	9·19364	3·93407	10
1	16	0·91867	0·39501	17	0·91856	0·39527	18	0·91844	0·39554	19	0·91833	0·39581	20	0·91821	0·39608	1
2		1·83735	0·79002		1·83712	0·79055		1·83689	0·79109		1·83666	0·79162		1·83643	0·79216	2
3		2·75602	1·18503		2·75568	1·18583		2·75533	1·18663		2·75499	1·18743		2·75464	1·18824	3
4		3·67470	1·58004		3·67424	1·58111		3·67378	1·58218		3·67332	1·58325		3·67286	1·58432	4
5		4·59338	1·97505		4·59280	1·97639		4·59223	1·97772		4·59165	1·97906		4·59108	1·98040	5
6		5·51205	2·37006		5·51136	2·37166		5·51067	2·37327		5·50998	2·37487		5·50929	2·37648	6
7		6·43073	2·76507		6·42992	2·76694		6·42912	2·76881		6·42831	2·77068		6·42751	2·77256	7
8		7·34941	3·16008		7·34849	3·16222		7·34757	3·16436		7·34665	3·16650		7·34572	3·16864	8
9		8·26808	3·55509		8·26705	3·55750		8·26601	3·55990		8·26498	3·56231		8·26394	3·56472	9
10	44	9·18676	3·95011	43	9·18561	3·95278	42	9·18446	3·95545	41	9·18331	3·95812	40	9·18216	3·96080	10
1	26	0·91752	0·39768	27	0·91740	0·39794	28	0·91729	0·39821	29	0·91717	0·39848	30	0·91706	0·39874	1
2		1·83504	0·79536		1·83481	0·79589		1·83458	0·79643		1·83435	0·79696		1·83412	0·79749	2
3		2·75257	1·19304		2·75222	1·19384		2·75187	1·19464		2·75152	1·19544		2·75118	1·19624	3
4		3·67009	1·59072		3·66963	1·59179		3·66916	1·59286		3·66870	1·59392		3·66824	1·59499	4
5		4·58761	1·98840		4·58703	1·98974		4·58646	1·99107		4·58588	1·99241		4·58530	1·99374	5
6		5·50514	2·38609		5·50444	2·38769		5·50375	2·38929		5·50305	2·39089		5·50236	2·39249	6
7		6·42266	2·78377		6·42185	2·78564		6·42104	2·78750		6·42023	2·78937		6·41942	2·79124	7
8		7·34018	3·18145		7·33926	3·18358		7·33833	3·18572		7·33740	3·18785		7·33648	3·18999	8
9		8·25771	3·57913		8·25666	3·58153		8·25562	3·58393		8·25458	3·58634		8·25354	3·58874	9
10	34	9·17523	3·97681	33	9·17407	3·97948	32	9·17292	3·98215	31	9·17176	3·98482	30	9·17060	3·98749	10
1	36	0·91636	0·40034	37	0·91624	0·40061	38	0·91613	0·40088	39	0·91601	0·40114	40	0·91589	0·40141	1
2		1·83272	0·80069		1·83249	0·80123		1·83226	0·80176		1·83202	0·80229		1·83179	0·80283	2
3		2·74908	1·20104		2·74873	1·20184		2·74839	1·20264		2·74803	1·20344		2·74768	1·20424	3
4		3·66545	1·60139		3·66498	1·60246		3·66452	1·60352		3·66405	1·60459		3·66358	1·60566	4
5		4·58181	2·00174		4·58123	2·00307		4·58065	2·00441		4·58006	2·00574		4·57948	2·00707	5
6		5·49817	2·40209		5·49747	2·40369		5·49678	2·40529		5·49607	2·40689		5·49537	2·40849	6
7		6·41453	2·80244		6·41372	2·80430		6·41291	2·80617		6·41209	2·80804		6·41127	2·80990	7
8		7·33090	3·20279		7·32996	3·20492		7·32904	3·20705		7·32810	3·20918		7·32717	3·21132	8
9		8·24726	3·60314		8·24621	3·60554		8·24517	3·60793		8·24411	3·61033		8·24306	3·61273	9
10	24	9·16362	4·00349	23	9·16246	4·00615	22	9·16130	4·00882	21	9·16013	4·01148	20	9·15896	4·01415	10
1	46	0·91519	0·40301	47	0·91507	0·40327	48	0·91496	0·40354	49	0·91484	0·40381	50	0·91472	0·40407	1
2		1·83038	0·80602		1·83015	0·80655		1·82992	0·80709		1·82968	0·80762		1·82944	0·80815	2
3		2·74558	1·20903		2·74523	1·20983		2·74488	1·21063		2·74452	1·21143		2·74417	1·21223	3
4		3·66077	1·61205		3·66030	1·61311		3·65984	1·61418		3·65936	1·61524		3·65889	1·61631	4
5		4·57597	2·01506		4·57538	2·01639		4·57480	2·01772		4·57421	2·01905		4·57362	2·02038	5
6		5·49116	2·41807		5·49046	2·41967		5·48976	2·42127		5·48905	2·42286		5·48834	2·42446	6
7		6·40636	2·82109		6·40553	2·82295		6·40472	2·82481		6·40389	2·82667		6·40307	2·82854	7
8		7·32155	3·22410		7·32061	3·22623		7·31968	3·22836		7·31873	3·23049		7·31779	3·23262	8
9		8·23674	3·62711		8·23569	3·62951		8·23464	3·63190		8·23357	3·63430		8·23252	3·63669	9
10	14	9·15194	4·03013	13	9·15077	4·03279	12	9·14960	4·03545	11	9·14842	4·03811	10	9·14724	4·04077	10
1	56	0·91401	0·40567	57	0·91390	0·40593	58	0·91378	0·40620	59	0·91366	0·40647	60	0·91354	0·40673	1
2		1·82803	0·81134		1·82780	0·81187		1·82756	0·81241		1·82732	0·81294		1·82709	0·81347	2
3		2·74205	1·21702		2·74170	1·21781		2·74134	1·21861		2·74099	1·21941		2·74063	1·22020	3
4		3·65607	1·62269		3·65560	1·62375		3·65512	1·62482		3·65465	1·62588		3·65418	1·62694	4
5		4·57009	2·02836		4·56950	2·02969		4·56891	2·03102		4·56831	2·03235		4·56772	2·03368	5
6		5·48410	2·43404		5·48340	2·43563		5·48269	2·43723		5·48198	2·43882		5·48127	2·44041	6
7		6·39812	2·83971		6·39730	2·84157		6·39647	2·84343		6·39564	2·84529		6·39481	2·84715	7
8		7·31214	3·24538		7·31120	3·24751		7·31025	3·24964		7·30930	3·25176		7·30836	3·25389	8
9		8·22616	3·65106		8·22510	3·65345		8·22403	3·65584		8·22297	3·65823		8·22190	3·66062	9
10	04	9·14018	4·05673	03	9·13900	4·05939	02	9·13782	4·06205	01	9·13663	4·06471	00	9·13545	4·06736	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

-4

66 DEG.

7

DIFFERENCE OF LATITUDE AND DEPARTURE.

DEG. 24.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·91342	0·40700	02	0·91330	0·40726	03	0·91319	0·40753	04	0·91307	0·40779	05	0·91295	0·40806	1
2		1·82685	0·81400		1·82661	0 81453		1·82638	0·81506		1·82614	0·81559		1·82590	0·81612	2
3		2·74028	1·22100		2·73992	1·22180		2·73957	1·22260		2·73921	1·22339		2·73885	1·22419	3
4		3·65370	1·62800		3 65323	1·62907		3·65276	1·63013		3·65228	1·63119		3·65181	1·63225	4
5		4·56713	2·03501		4·56654	2·03634		4·56595	2·03766		4·56535	2·03899		4·56476	2·04032	5
6		5·48056	2·44201		5·47985	2·44360		5·47914	2·44520		5·47842	2·44679		5·47771	2·44838	6
7		6·39398	2·84901		6·39316	2·85087		6·39233	2·85273		6·39150	2·85459		6·39067	2·85645	7
8		7·30741	3·25601		7·30646	3·25814		7·30552	3·26026		7·30457	3·26239		7·30362	3·26451	8
9		8·22084	3·66302		8·21977	3·66541		8·21871	3·66780		8·21764	3·67019		8·21657	3·67258	9
10	59	9·13427	4·07002	58	9·13308	4·07268	57	9·13190	4·07533	56	9·13071	4·07799	55	9·12953	4·08065	10
1	11	0·91223	0·40965	12	0 91212	0·40992	13	0·91200	0 41018	14	0·91188	0·41045	15	0·91176	0·41071	1
2		1·82447	0·81931		1·82424	0·81984		1·82400	0·82037		1·82376	0·82090		1·82352	0·82143	2
3		2·73671	1·22897		2·73636	1·22976		2 73600	1·23056		2·73564	1·23136		2·73528	1·23215	3
4		3·64895	1·63863		3·64848	1·63969		3·64800	1·64075		3·64752	1·64181		3·64704	1·64287	4
5		4·56119	2·04828		4·56060	2·04961		4·56000	2·05094		4·55940	2·05226		4·55881	2·05359	5
6		5·47343	2·45794		5·47272	2·45953		5·47200	2·46112		5·47128	2·46272		5·47057	2·46431	6
7		6·38567	2·86760		6·38484	2·86946		6·38400	2·87131		6·38317	2·87317		6·38233	2·87503	7
8		7·29791	3·27726		7·29696	3·27938		7·29600	3·28150		7·29505	3·28362		7·29409	3·28575	8
9		8·21015	3·68691		8·20908	3·68930		8·20800	3·69169		8·20693	3·69408		8·20585	3·69647	9
10	49	9·12239	4 09657	48	9·12120	4·09923	47	9·12000	4·10188	46	9·11881	4·10453	45	9·11762	4·10719	10
1	21	0·91104	0·41231	22	0·91092	0·41257	23	0·91080	0·41284	24	0·91068	0·41310	25	0·91056	0 41336	1
2		1·82208	0·82462		1·82184	0·82514		1·82160	0·82568		1·82136	0·82620		1·82112	0·82673	2
3		2·73313	1·23693		2·73277	1·23772		2·73241	1·23852		2·73205	1·23931		2·73169	1·24010	3
4		3·64417	1·64924		3·64369	1·65029		3·64321	1·65136		3·64273	1·65241		3·64225	1·65347	4
5		4·55521	2·06155		4·55461	2·06287		4·55401	2·06420		4·55341	2·06552		4 55281	2·06684	5
6		5·46626	2·47386		5·46554	2·47544		5·46482	2·47704		5·46410	2·47862		5·46338	2·48021	6
7		6·37730	2·88617		6·37646	2·88802		6·37562	2·88988		6·37478	2·89173		6·37394	2·89358	7
8		7·28835	3·29848		7·28739	3·30059		7·28643	3·30272		7 28546	3·30483		7·28450	3·30695	8
9		8·19939	3·71079		8·19831	3·71317		8·19723	3·71556		8·19615	3·71793		8·19507	3·72032	9
10	39	9·11043	4·12310	38	9·10923	4·12574	37	9·10803	4·12840	36	9·10683	4·13104	35	9·10563	4·13369	10
1	31	0·90984	0·41495	32	0·90972	0·41522	33	0·90959	0·41548	34	0·90947	0·41575	35	0·90935	0·41601	1
2		1·81968	0·82991		1·81944	0·83044		1·81919	0·83097		1·81895	0·83150		1·81871	0·83203	2
3		2·72952	1·24487		2·72916	1·24566		2·72879	1·24646		2·72843	1·24725		2·72807	1·24804	3
4		3·63936	1·65983		3·63888	1·66089		3·63839	1·66194		3·63791	1·66300		3·63742	1·66406	4
5		4·54920	2·07479		4·54860	2·07611		4·54799	2·07743		4·54739	2·07875		4·54678	2·08008	5
6		5·45904	2·48974		5·45832	2·49133		5·45759	2·49292		5·45686	2·49451		5·45614	2·49609	6
7		6·36888	2·90470		6·36804	2·90655		6·36719	2·90841		6·36634	2·91026		6·36550	2·91211	7
8		7·27872	3·31966		7·27776	3·32178		7·27679	3·32389		7·27582	3 32601		7·27485	3·32813	8
9		8·18856	3·73462		8·18748	3·73700		8·18639	3·73938		8·18530	3·74176		8·18421	3·74414	9
10	29	9·09840	4·14958	28	9·09720	4·15222	27	9·09599	4·15487	26	9·09478	4·15751	25	9·09357	4·16016	10
1	41	0·90863	0·41760	42	0·90850	0·41786	43	0·90838	0·41813	44	0·90826	0·41839	45	0·90814	0·41866	1
2		1·81726	0·83520		1·81701	0·83573		1·81677	0·83626		1·81652	0·83679		1·81628	0·83732	2
3		2·72589	1·25280		2·72552	1·25360		2·72515	1·25439		2·72479	1·25518		2·72442	1·25598	3
4		3·63452	1·67041		3·63403	1·67146		3·63354	1·67252		3·63305	1·67358		3·63257	1·67464	4
5		4·54315	2·08801		4·54254	2·08933		4·54193	2·09065		4·54132	2·09197		4·54071	2·09330	5
6		5·45178	2·50561		5·45104	2·50720		5·45031	2·50878		5·44958	2·51037		5·44885	2·51196	6
7		6·36041	2·92321		6·35955	2·92506		6·35870	2·92691		6·35785	2·92876		6·35700	2·93062	7
8		7·26904	3·34082		7·26806	3·34293		7·26709	3·34505		7·26611	3·34716		7·26514	3·34928	8
9		8·17767	3·75842		8·17657	3·76080		8·17547	3·76318		8·17438	3·76556		8·17328	3·76794	9
10	19	9·08630	4·17602	18	9·08508	4·17867	17	9·08386	4·18131	16	9·08265	4·18395	15	9·08143	4·18660	10
1	51	0·90741	0·42024	52	0·90728	0·42050	53	0·90716	0·42077	54	0·90704	0·42103	55	0·90692	0·42130	1
2		1·81482	0·84048		1·81457	0·84101		1·81433	0·84154		1·81408	0·84207		1·81384	0·84260	2
3		2·72223	1·26073		2·72186	1·26152		2·72149	1·26231		2·72113	1·26310		2·72076	1·26390	3
4		3·62964	1·68097		3·62915	1 68203		3 62866	1·68308		3·62817	1·68414		3·62768	1·68520	4
5		4·53705	2·10122		4·53644	2·10254		4·53583	2·10386		4·53522	2·10517		4·53460	2·10650	5
6		5·44446	2·52146		5·44373	2·52304		5·44299	2·52463		5·44226	2·52621		5·44152	2·52780	6
7		6·35187	2 94170		6·35102	2·94355		6·35016	2·94540		6·34930	2·94725		6 34845	2·94910	7
8		7·25928	3·36195		7·25831	3·36406		7·25733	3·36617		7·25635	3·36828		7·25537	3·37040	8
9		8·16669	3·78219		8·16559	3·78457		8·16449	3·78694		8·16339	3·78932		8·16229	3·79170	9
10	09	9·07411	4·20244	08	9·07288	4·20508	07	9·07166	4·20772	06	9·07044	4·21035	05	9·06921	4·21300	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 65.

24 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.	
1	06	0·91283	0·40833	07	0·91271	0·40859	08	0·91259	0·40886	09	0·91247	0·40912	10	0·91235	0·40939	1	
2		1·82566	0·81666		1·82543	0·81719		1·82519	0·81772		1·82495	0·81825		1·82471	0·81878	2	
3		2·73850	1·22499		2·73814	1·22578		2·73778	1·22658		2·73743	1·22738		2·73707	1·22817	3	
4		3·65133	1·63332		3·65086	1·63438		3·65038	1·63544		3·64991	1·63650		3·64943	1·63756	4	
5		4·56417	2·04165		4·56357	2·04298		4·56298	2·04430		4·56238	2·04563		4·56179	2·04696	5	
6		5·47700	2·44998		5·47629	2·45157		5·47557	2·45316		5·47486	2·45476		5·47415	2·45635	6	
7		6·38983	2·85831		6·38900	2·86017		6·38817	2·86203		6 38734	2·86388		6·38650	2·86574	7	
8		7·30267	3·26664		7·30172	3·26876		7·30077	3·27089		7·29982	3·27301		7·29886	3·27513	8	
9		8·21550	3·67497		8·21443	3·67736		8·21336	3·67975		8·21229	3·68214		8·21122	3·68453	9	
10	54	9·12834	4·08330	53	9·12715	4·08596	52	9·12596	4·08861	51	9·12477	4·09127	50	9·12358	4·09392	10	
1	16	0·91164	0·41098	17	0·91152	0·41124	18	0·91140	0·41151	19	0·91128	0·41178	20	0·91116	0·41204	1	
2		1·82328	0·82196		1·82304	0·82249		1·82280	0·82302		1·82256	0·82356		1·82232	0·82408	2	
3		2·73492	1·23295		2·73456	1·23374		2·73420	1·23454		2·73385	1·23534		2·73349	1·23613	3	
4		3·64657	1·64393		3·64609	1·64499		3·64561	1·64605		3·64513	1·64712		3·64465	1·64817	4	
5		4·55821	2·05492		4·55761	2·05624		4·55701	2·05757		4·55641	2·05890		4·55581	2·06022	5	
6		5·46985	2·46590		5·46913	2·46749		5·46841	2·46908		5·46770	2·47068		5·46698	2·47226	6	
7		6·38149	2·87688		6·38066	2·87874		6·37982	2·88060		6·37898	2·88246		6·37814	2 88431	7	
8		7·29314	3·28787		7·29218	3·28999		7·29122	3·29211		7·29026	3·29424		7·28930	3·29635	8	
9		8·20478	3·69885		8·20370	3·70124		8·20262	3·70362		8·20155	3·70602		8·20047	3·70840	9	
10	44	9·11642	4·10984	43	9·11523	4·11249	42	9·11403	4·11514	41	9·11283	4·11780	40	9·11163	4·12044	10	
1	26	0·91044	0·41363	27	0·91032	0·41389	28	0·91020	0·41416	29	0·91008	0·41442	30	0·90996	0·41469	1	
2		1·82088	0·82726		1·82064	0·82779		1·82040	0·82832		1·82016	0·82885		1·81992	0·82938	2	
3		2·73132	1·24090		2·73096	1·24169		2·73060	1·24249		2·73024	1·24328		2·72988	1·24407	3	
4		3·64177	1·65453		3·64129	1·65559		3·64080	1·65665		3·64032	1·65771		3·63984	1·65877	4	
5		4·55221	2·06817		4·55161	2·06949		4·55101	2·07081		4·55040	2·07214		4·54980	2·07346	5	
6		5·46265	2·48180		5·46193	2·48339		5·46121	2·48498		5·46049	2·48657		5·45976	2·48815	6	
7		6·37310	2·89543		6·37225	2·89729		6·37141	2·89914		6·37057	2·90099		6·36972	2·90285	7	
8		7·28354	3·30907		7·28258	3·31119		7·28161	3·31331		7·28065	3·31542		7·27969	3·31754	8	
9		8·19398	3·72270		8·19290	3·72509		8·19182	3·72747		8·19073	3·72985		8·18965	3·73223	9	
10	34	9·10443	4·13634	33	9·10322	4·13899	32	9·10202	4·14163	31	9·10082	4·14428	30	9·09961	4·14693	10	
1	36	0·90923	0·41628	37	0·90911	0·41654	38	0·90899	0·41681	39	0 90887	0·41707	40	0·90875	0·41733	1	
2		1·81847	0·83256		1·81823	0·83309		1·81798	0·83362		1·81774	0·83414		1·81750	0·83467	2	
3		2·72770	1·24884		2·72734	1·24963		2·72698	1·25043		2·72661	1·25122		2·72625	1·25201	3	
4		3·63694	1·66512		3·63646	1·66618		3·63597	1·66724		3·63549	1·66829		3·63500	1·66935	4	
5		4·54618	2·08140		4·54557	2·08272		4·54496	2·08405		4·54436	2·08537		4·54375	2·08669	5	
6		5·45541	2·49768		5·45469	2·49927		5·45396	2·50086		5·45323	2·50244		5·45250	2·50403	6	
7		6·36465	2·91396		6·36380	2·91581		6·36295	2·91767		6·36210	2·91951		6·36125	2·92136	7	
8		7·27388	3·33024		7·27292	3·33236		7·27195	3·33448		7·27098	3·33659		7·27000	3·33870	8	
9		8·18312	3·74652		8·18203	3·74890		8·18094	3·75129		8·17985	3·75366		8·17875	3·75604	9	
10	24	9·09236	4·16281	23	9·09115	4·16545	22	9·08993	4·16810	21	9·08872	4·17074	20	9·08751	4·17338	10	
1	46	0·90802	0·41892	47	0·90790	0·41918	48	0·90777	0·41945	49	0·90765	0·41971	50	0·90753	0·41998	1	
2		1·81604	0·83784		1·81580	0·83837		1·81555	0·83890		1·81531	0·83943		1·81506	0·83996	2	
3		2·72406	1·25677		2·72370	1·25756		2·72333	1·25835		2·72296	1·25914		2·72259	1·25994	3	
4		3·63208	1·67569		3·63160	1·67675		3·63111	1·67780		3·63062	1·67886		3·63013	1·67992	4	
5		4·54010	2·09462		4·53950	2·09594		4·53888	2·09726		4·53827	2·09858		4·53766	2·09990	5	
6		5·44812	2·51354		5·44740	2·51512		5·44666	2·51671		5·44593	2·51829		5·44519	2·51988	6	
7		6·35614	2·93246		6·35530	2·93431		6·35444	2·93616		6·35358	2·93801		6·35273	2·93986	7	
8		7·26417	3·35139		7·26320	3·35350		7·26222	3·35561		7·26124	3·35772		7·26026	3·35984	8	1
9		8·17219	3·77031		8·17110	3·77269		8·16999	3·77506		8·16889	3·77744		8·16779	3 77982	9	
10	14	9·08021	4·18924	13	9·07900	4·19188	12	9·07777	4·19452	11	9·07655	4·19716	10	9·07533	4·19980	10	2
1	56	0·90679	0·42156	57	0·90667	0·42182	58	0·90655	0·42209	59	0·90643	0·42235	60	0·90630	0·42261	1	
2		1·81359	0·84312		1·81335	0·84365		1·81310	0·84418		1·81286	0·84470		1·81261	0·84523	2	
3		2·72039	1·26469		2·72002	1·26548		2·71966	1·26627		2·71929	1·26706		2·71892	1·26785	3	
4		3·62719	1·68625		3·62670	1·68730		3·62621	1·68836		3·62572	1·68941		3·62523	1·69047	4	
5		4·53399	2·10781		4·53338	2·10913		4·53276	2·11045		4·53215	2·11177		4·53153	2·11309	5	
6		5·44079	2·52938		5·44005	2·53096		5·43932	2·53254		5·43858	2·53412		5·43784	2·53570	6	
7		6·34759	2·95094		6·34673	2·95279		6·34587	2·95463		6·34501	2·95648		6·34415	2·95832	7	
8		7·25439	3·37250		7·25340	3·37461		7·25242	3·37672		7·25144	3·37883		7·25046	3·38094	8	
9		8·16119	3·79407		8·16008	3·79644		8·15898	3·79881		8·15787	3·80119		8·15677	3·80356	9	
10	04	9·06799	4·21563	03	9·06676	4·21827	02	9·06553	4·22091	01	9·06430	4·22354	00	9·06307	4·22618	10	
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.	

65 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·90618	0·42288	02	0·90606	0·42314	03	0·90593	0·42340	04	0·90581	0·42367	05	0·90569	0·42393	1
2		1·81236	0·84576		1·81212	0·84629		1·81187	0·84681		1·81163	0·84734		1·81138	0·84787	2
3		2·71855	1·26864		2·71818	1·26943		2·71781	1·27022		2·71744	1·27101		2·71707	1·27180	3
4		3·62473	1·69152		3·62424	1·69258		3·62375	1·69363		3·62326	1·69469		3·62276	1·69574	4
5		4·53092	2·11440		4·53030	2·11572		4·52969	2·11704		4·52907	2·11836		4·52846	2·11968	5
6		5·43710	2·53729		5·43637	2·53887		5 43563	2·54045		5·43489	2·54203		5·43415	2·54361	6
7		6·34329	2·96017		6·34243	2·96201		6·34157	2·96386		6·34070	2·96570		6·33984	2·96755	7
8		7·24947	3·38305		7·24849	3·38516		7·24750	3·38727		7·24652	3·38938		7·24553	3·39148	8
9		8·15566	3·80593		8·15455	3·80830		8·15344	3·81068		8·15233	3 81305		8·15122	3·81542	9
10	59	9·06184	4·22882	58	9·06061	4·23145	57	9·05938	4·23409	56	9·05815	4·23672	55	9·05692	4·23936	10
1	11	0·90495	0·42551	12	0·90482	0·42577	13	0·90470	0·42604	14	0·90457	0·42630	15	0·90445	0·42656	1
2		1·80990	0·85103		1·80965	0·85155		1·80940	0·85208		1·80915	0·85261		1·80891	0·85313	2
3		2·71485	1·27654		2·71448	1·27733		2·71410	1·27812		2·71373	1·27891		2·71336	1·27970	3
4		3·61980	1·70206		3·61930	1·70311		3·61881	1·70417		3·61831	1·70522		3·61782	1·70627	4
5		4·52475	2·12758		4·52413	2·12889		4·52351	2·13021		4·52289	2·13152		4·52227	2·13284	5
6		5·42970	2·55309		5·42896	2·55467		5·42821	2·55625		5·42747	2·55783		5·42673	2·55941	6
7		6·33465	2·97861		6·33378	2·98045		6·33292	2·98229		6·33205	2·98413		6·33118	2·98598	7
8		7·23960	3·40412		7·23861	3·40623		7·23762	3·40834		7·23663	3·41044		7·23564	3·41254	8
9		8·14455	3·82964		8·14344	3·83201		8·14232	3·83438		8·14121	3·83675		8·14009	3·83911	9
10	49	9·04951	4·25516	48	9·04827	4·25779	47	9·04703	4·26042	46	9·04579	4·26305	45	9·04455	4·26568	10
1	21	0·90370	0·42814	22	0·90358	0·42841	23	0·90346	0·42867	24	0·90333	0·42893	25	0·90321	0·42919	1
2		1·80741	0·85629		1·80716	0·85682		1·80692	0·85734		1·80667	0·85787		1·80642	0·85839	2
3		2·71112	1·28444		2·71075	1·28523		2·71038	1·28601		2·71000	1·28680		2·70963	1·28759	3
4		3·61483	1·71258		3·61433	1·71364		3·61384	1·71468		3·61334	1·71574		3·61284	1·71679	4
5		4·51854	2·14073		4·51792	2·14205		4·51730	2·14336		4·51667	2·14467		4·51605	2·14599	5
6		5·42225	2·56888		5·42150	2·57046		5·42076	2·57203		5·42001	2·57361		5·41926	2·57518	6
7		6·32596	2·99702		6·32509	2·99887		6·32422	3·00070		6·32334	3·00254		6·32247	3·00438	7
8		7·22967	3·42517		7·22867	3·42728		7·22768	3·42937		7·22668	3·43148		7·22568	3·43358	8
9		8·13338	3·85332		8·13226	3·85569		8·13114	3·85805		8·13001	3·86041		8·12889	3·86278	9
10	39	9·03709	4·28146	38	9·03584	4·28410	37	9·03460	4·28672	36	9·03335	4·28935	35	9·03210	4·29198	10
1	31	0·90246	0·43077	32	0·90233	0·43103	33	0·90220	0·43129	34	0·90208	0·43156	35	0·90195	0·43182	1
2		1·80492	0·86154		1·80466	0·86207		1·80441	0·86259		1·80416	0·86312		1·80391	0·86364	2
3		2·70738	1·29232		2·70700	1·29310		2·70662	1·29389		2·70625	1·29468		2·70587	1·29547	3
4		3·60984	1·72309		3·60933	1·72414		3·60883	1·72519		3·60833	1·72624		3·60783	1·72729	4
5		4·51230	2·15386		4·51167	2·15518		4·51104	2·15649		4·51041	2·15780		4·50979	2·15911	5
6		5·41476	2·58464		5·41400	2·58621		5·41325	2·58779		5·41250	2·58936		5·41174	2·59094	6
7		6·31722	3·01541		6·31634	3·01725		6·31546	3·01909		6·31458	3·02092		6·31370	3·02276	7
8		7·21968	3·44618		7·21867	3·44828		7·21767	3·45038		7·21667	3·45248		7·21566	3·45458	8
9		8·12214	3·87696		8·12101	3·87932		8·11988	3·88168		8·11875	3·88404		8·11762	3·88641	9
10	29	9·02460	4·30773	28	9·02334	4·31036	27	9·02209	4·31298	26	9·02083	4·31561	25	9·01958	4·31823	10
1	41	0·90120	0·43339	42	0·90107	0·43365	43	0·90095	0·43392	44	0·90082	0·43418	45	0·90069	0·43444	1
2		1·80240	0·86679		1·80215	0·86731		1·80190	0·86784		1·80164	0·86836		1·80139	0·86889	2
3		2·70360	1·30019		2·70323	1·30097		2·70285	1·30176		2·70247	1·30254		2·70209	1·30333	3
4		3·60481	1·73358		3 60430	1·73463		3·60380	1·73568		3·60329	1·73673		3·60279	1·73778	4
5		4·50601	2·16698		4·50538	2·16829		4·50475	2·16960		4.50412	2·17091		4·50349	2·17222	5
6		5·40721	2·60038		5·40646	2·60195		5·40570	2·60352		5·40494	2·60509		5·40418	2·60667	6
7		6·30842	3·03377		6·30753	3·03561		6·30665	3·03744		6·30577	3·03928		6·30488	3·04111	7
8		7·20962	3·46717		7·20861	3·46927		7·20760	3·47136		7·20659	3·47346		7·20558	3·47556	8
9		8·11082	3·90057		8·10969	3·90293		8·10855	3·90529		8·10742	3·90764		8·10628	3·91000	9
10	19	9·01203	4·33397	18	9·01077	4·33659	17	9·00950	4·33921	16	9·00824	4·34183	15	9·00698	4·34445	10
1	51	0·89993	0·43601	52	0·89981	0·43627	53	0·89968	0·43654	54	0·89955	0·43680	55	0·89943	0·43706	1
2		1·79987	0·87203		1·79962	0·87255		1·79936	0·87308		1·79911	0·87360		1·79886	0·87412	2
3		2·69981	1·30804		2·69943	1·30883		2·69905	1·30962		2·69867	1·31040		2·69829	1·31119	3
4		3·59975	1·74406		3·59924	1·74511		3·59873	1·74616		3·59823	1·74720		3·59772	1·74825	4
5		4·49969	2·18008		4·49905	2·18139		4·49842	2·18270		4·49778	2·18400		4·49715	2·18531	5
6		5·39963	2·61609		5·39887	2·61767		5·39810	2·61924		5·39734	2·62081		5·39658	2·62238	6
7		6·29957	3·05211		6·29868	3·05394		6·29779	3·05578		6·29690	3·05761		6·29601	3·05944	7
8		7·19950	3·48813		7·19849	3·49022		7·19747	3·49232		7·19646	3·49441		7·19544	3·49650	8
9		8·09944	3·92414		8·09830	3·92650		8·09716	3·92886		8·09602	3·93121		8·09487	3·93357	9
10	09	8·99938	4·36016	08	8·99811	4·36278	07	8·99684	4·36540	06	8·99557	4·36801	05	8·99430	4·37063	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·90556	0·42419	07	0·90544	0·42446	08	0·90532	0·42472	09	0·90519	0·42499	10	0·90507	0·42525	1
2		1·81113	0·84839		1·81089	0·84892		1·81064	0·84945		1·81039	0·84998		1·81014	0·85050	2
3		2·71670	1·27259		2·71633	1·27338		2·71596	1·27417		2·71559	1·27497		2·71522	1·27575	3
4		3·62227	1·69679		3·62178	1·69785		3·62128	1·69890		3·62079	1·69996		3·62029	1·70101	4
5		4·52784	2·12099		4·52722	2·12231		4·52661	2·12363		4·52599	2·12495		4·52537	2·12626	5
6		5·43341	2·54519		5·43267	2·54677		5·43193	2·54835		5·43118	2·54994		5·43044	2·55151	6
7		6·33898	2·96939		6·33811	2·97123		6·33725	2·97308		6·33638	2·97493		6·33552	2·97676	7
8		7·24455	3·39359		7·24356	3·39570		7·24257	3·39780		7·24158	3·39992		7·24059	3·40202	8
9		8·15011	3·81779		8·14900	3·82016		8·14789	3·82253		8·14678	3·82491		8·14567	3·82727	9
10	54	9·05568	4·24199	53	9·05445	4·24462	52	9·05322	4·24726	51	9·05198	4·24990	50	9·05074	4·25252	10
1	16	0·90433	0·42683	17	0·90420	0·42709	18	0·90408	0·42735	19	0·90395	0·42762	20	0·90383	0·42788	1
2		1·80866	0·85366		1·80841	0·85418		1·80816	0·85471		1·80791	0·85524		1·80766	0·85576	2
3		2·71299	1·28049		2·71262	1·28128		2·71224	1·28207		2·71187	1·28286		2·71150	1·28365	3
4		3·61732	1·70732		3·61682	1·70837		3·61633	1·70943		3·61583	1·71048		3·61533	1·71153	4
5		4·52165	2·13415		4·52103	2·13547		4·52041	2·13678		4·51979	2·13810		4·51916	2·13941	5
6		5·42598	2·56099		5·42524	2·56256		5·42449	2·56414		5·42374	2·56572		5·42300	2·56730	6
7		6·33031	2·98782		6·32944	2·98966		6·32857	2·99150		6·32770	2·99334		6·32683	2·99518	7
8		7·23464	3·41465		7·23365	3·41675		7·23266	3·41886		7·23166	3·42096		7·23067	3·42307	8
9		8·13897	3·84148		8·13786	3·84385		8·13674	3·84622		8·13562	3·84858		8·13450	3·85095	9
10	44	9·04331	4·26831	43	9·04206	4·27095	42	9·04082	4·27358	41	9·03958	4·27620	40	9·03833	4·27883	10
1	26	0·90308	0·42946	27	0·90296	0·42972	28	0·90283	0·42998	29	0·90271	0·43024	30	0·90258	0·43051	1
2		1·80617	0·85892		1·80592	0·85944		1·80567	0·85997		1·80542	0·86049		1·80517	0·86102	2
3		2·70925	1·28838		2·70888	1·28916		2·70850	1·28995		2·70813	1·29074		2·70775	1·29153	3
4		3·61234	1·71784		3·61184	1·71889		3·61134	1·71994		3·61084	1·72099		3·61034	1·72204	4
5		4·51542	2·14730		4·51480	2·14861		4·51417	2·14993		4·51355	2·15124		4·51292	2·15255	5
6		5·41851	2·57676		5·41776	2·57833		5·41701	2·57991		5·41626	2·58149		5·41551	2·58306	6
7		6·32159	3·00622		6·32072	3·00806		6·31984	3·00990		6·31897	3·01173		6·31809	3·01357	7
8		7·22468	3·43568		7·22368	3·43778		7·22268	3·43988		7·22168	3·44198		7·22068	3·44408	8
9		8·12777	3·86514		8·12664	3·86750		8·12552	3·86987		8·12439	3·87223		8·12326	3·87459	9
10	34	9·03085	4·29460	33	9·02960	4·29723	32	9·02835	4·29986	31	9·02710	4·30248	30	9·02585	4·30511	10
1	36	0·90183	0·43208	37	0·90170	0·43234	38	0·90158	0·43261	39	0·90145	0·43287	40	0·90132	0·43313	1
2		1·80366	0·86417		1·80341	0·86469		1·80316	0·86522		1·80291	0·86574		1·80265	0·86626	2
3		2·70549	1·29625		2·70512	1·29704		2·70474	1·29783		2·70436	1·29861		2·70398	1·29940	3
4		3·60733	1·72834		3·60682	1·72939		3·60632	1·73044		3·60582	1·73149		3·60531	1·73253	4
5		4·50916	2·16042		4·50853	2·16174		4·50790	2·16305		4·50727	2·16436		4·50664	2·16567	5
6		5·41099	2·59251		5·41024	2·59408		5·40948	2·59566		5·40873	2·59723		5·40797	2·59880	6
7		6·31282	3·02459		6·31194	3·02643		6·31106	3·02827		6·31018	3·03010		6·30930	3·03194	7
8		7·21466	3·45668		7·21365	3·45878		7·21264	3·46088		7·21164	3·46298		7·21063	3·46507	8
9		8·11649	3·88877		8·11536	3·89113		8·11422	3·89349		8·11309	3·89585		8·11196	3·89821	9
10	24	9·01832	4·32085	23	9·01706	4·32348	22	9·01581	4·32610	21	9·01455	4·32872	20	9·01329	4·33134	10
1	46	0·90057	0·43470	47	0·90044	0·43496	48	0·90031	0·43523	49	0·90019	0·43549	50	0·90006	0·43575	1
2		1·80114	0·86941		1·80089	0·86993		1·80063	0·87046		1·80038	0·87098		1·80013	0·87150	2
3		2·70171	1·30412		2·70133	1·30490		2·70095	1·30569		2·70057	1·30647		2·70019	1·30726	3
4		3·60228	1·73882		3·60178	1·73987		3·60127	1·74092		3·60076	1·74197		3·60026	1·74301	4
5		4·50285	2·17353		4·50222	2·17484		4·50159	2·17615		4·50096	2·17746		4·50032	2·17877	5
6		5·40343	2·60824		5·40267	2·60981		5·40191	2·61138		5·40115	2·61295		5·40039	2·61452	6
7		6·30400	3·04295		6·30311	3·04478		6·30223	3·04661		6·30134	3·04845		6·30045	3·05028	7
8		7·20457	3·47765		7·20356	3·47975		7·20255	3·48184		7·20153	3·48394		7·20052	3·48603	8
9		8·10514	3·91236		8·10400	3·91472		8·10286	3·91707		8·10172	3·91943		8·10058	3·92179	9
10	14	9·00571	4·34707	13	9·00445	4·34969	12	9·00318	4·35231	11	9·00192	4·35493	10	9·00065	4·35754	10
1	56	0·89930	0·43732	57	0·89917	0·43758	58	0·89904	0·43784	59	0·89892	0·43811	60	0·89879	0·43837	1
2		1·79860	0·87465		1·79835	0·87517		1·79809	0·87569		1·79784	0·87622		1·79758	0·87674	2
3		2·69791	1·31197		2·69752	1·31275		2·69714	1·31354		2·69676	1·31433		2·69638	1·31511	3
4		3·59721	1·74930		3·59670	1·75034		3·59619	1·75139		3·59568	1·75244		3·59517	1·75348	4
5		4·49651	2·18662		4·49588	2·18793		4·49524	2·18924		4·49460	2·19055		4·49397	2·19185	5
6		5·39582	2·62395		5·39505	2·62551		5·39429	2·62708		5·39352	2·62866		5·39276	2·63022	6
7		6·29512	3·06127		6·29423	3·06310		6·29334	3·06493		6·29245	3·06677		6·29155	3·06859	7
8		7·19442	3·49860		7·19341	3·50069		7·19239	3·50278		7·19137	3·50488		7·19035	3·50696	8
9		8·09373	3·93592		8·09258	3·93827		8·09144	3·94063		8·09029	3·94299		8·08914	3·94533	9
10	04	8·99303	4·37325	03	8·99176	4·37586	02	8·99049	4·37848	01	8·98921	4·38110	00	8·98794	4·38371	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

64 DEG.

DEG. 26.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·89866	0·43863	02	0·89853	0·43889	03	0·89841	0·43915	04	0·89828	0·43941	05	0·89815	0·43967	1
2		1·79733	0·87726		1·79707	0·87778		1·79682	0·87831		1·79656	0·87883		1·79631	0·87935	2
3		2·69599	1·31589		2·69561	1·31668		2·69523	1·31746		2·69485	1·31824		2·69446	1·31903	3
4		3·59466	1·75453		3·59415	1·75557		3·59364	1·75662		3·59313	1·75766		3·59262	1·75871	4
5		4·49333	2·19316		4·49269	2·19447		4·49205	2·19577		4·49141	2·19708		4·49077	2·19839	5
6		5·39199	2·63179		5·39123	2·63336		5·39046	2·63493		5·38970	2·63649		5·38893	2·63806	6
7		6·29066	3·07042		6·28977	3·07225		6·28887	3·07408		6·28798	3·07591		6·28708	3·07774	7
8		7·18933	3·50906		7·18831	3·51115		7·18728	3·51324		7·18626	3·51533		7·18524	3·51742	8
9		8·08799	3·94769		8·08685	3·95004		8·08570	3·95239		8·08455	3·95474		8·08339	3·95710	9
10	59	8·98666	4·38632	58	8·98539	4·38894	57	8·98411	4·39155	56	8·98283	4·39416	55	8·98155	4·39678	10
1	11	0·89738	0·44124	12	0·89725	0·44150	13	0·89713	0·44176	14	0·89700	0·44202	15	0·89687	0·44228	1
2		1·79477	0·88248		1·79451	0·88301		1·79426	0·88353		1·79400	0·88405		1·79374	0·88457	2
3		2·69216	1·32373		2·69177	1·32451		2·69139	1·32530		2·69100	1·32608		2·69061	1·32686	3
4		3·58954	1·76497		3·58903	1·76602		3·58852	1·76706		3·58800	1·76811		3·58749	1·76915	4
5		4·48693	2·20622		4·48629	2·20753		4·48565	2·20883		4·48500	2·21013		4·48436	2·21144	5
6		5·38432	2·64746		5·38355	2·64903		5·38278	2·65060		5·38200	2·65216		5·38123	2·65373	6
7		6·28170	3·08871		6·28080	3·09054		6·27991	3·09236		6·27900	3·09419		6·27810	3·09602	7
8		7·17909	3·52995		7·17806	3·53204		7·17704	3·53413		7·17601	3·53622		7·17498	3·53830	8
9		8·07648	3·97120		8·07532	3·97355		8·07417	3·97590		8·07301	3·97825		8·07185	3·98059	9
10	49	8·97386	4·41244	48	8·97258	4·41506	47	8·97130	4·41766	46	8·97001	4·42027	45	8·96872	4·42288	10
1	21	0·89609	0·44385	22	0·89597	0·44411	23	0·89584	0·44437	24	0·89571	0·44463	25	0·89558	0·44489	1
2		1·79219	0·88770		1·79194	0·88822		1·79168	0·88874		1·79142	0·88927		1·79116	0·88979	2
3		2·68829	1·33156		2·68791	1·33234		2·68752	1·33312		2·68713	1·33390		2·68674	1·33468	3
4		3·58439	1·77541		3·58388	1·77645		3·58336	1·77749		3·58284	1·77854		3·58232	1·77958	4
5		4·48049	2·21926		4·47985	2·22057		4·47920	2·22187		4·47855	2·22317		4·47791	2·22447	5
6		5·37659	2·66312		5·37582	2·66468		5·37504	2·66624		5·37427	2·66781		5·37349	2·66937	6
7		6·27269	3·10697		6·27179	3·10879		6·27088	3·11062		6·26998	3·11244		6·26907	3·11426	7
8		7·16879	3·55082		7·16776	3·55291		7·16672	3·55499		7·16569	3·55708		7·16465	3·55916	8
9		8·06489	3·99468		8·06373	3·99702		8·06256	3·99937		8·06140	4·00171		8·06024	4·00406	9
10	39	8·96099	4·43853	38	8·95970	4·44114	37	8·95841	4·44374	36	8·95711	4·44635	35	8·95582	4·44895	10
1	31	0·89480	0·44645	32	0·89467	0·44671	33	0·89454	0·44697	34	0·89441	0·44723	35	0·89428	0·44749	1
2		1·78960	0·89291		1·78934	0·89343		1·78908	0·89395		1·78882	0·89447		1·78856	0·89499	2
3		2·68441	1·33937		2·68402	1·34015		2·68363	1·34093		2·68324	1·34171		2·68285	1·34249	3
4		3·57921	1·78583		3·57869	1·78687		3·57817	1·78791		3·57765	1·78895		3·57713	1·78999	4
5		4·47402	2·23229		4·47337	2·23359		4·47272	2·23489		4·47207	2·23619		4·47142	2·23749	5
6		5·36882	2·67874		5·36804	2·68031		5·36726	2·68187		5·36648	2·68343		5·36570	2·68499	6
7		6·26363	3·12520		6·26272	3·12702		6·26181	3·12885		6·26090	3·13067		6·25999	3·13249	7
8		7·15843	3·57166		7·15739	3·57374		7·15635	3·57582		7·15531	3·57791		7·15427	3·57999	8
9		8·05324	4·01812		8·05207	4·02046		8·05090	4·02280		8·04973	4·02514		8·04855	4·02749	9
10	29	8·94804	4·46458	28	8·94674	4·46718	27	8·94544	4·46978	26	8·94414	4·47238	25	8·94284	4·47499	10
1	41	0·89350	0·44905	42	0·89337	0·44931	43	0·89324	0·44957	44	0·89311	0·44983	45	0·89297	0·45009	1
2		1·78700	0·89811		1·78674	0·89863		1·78648	0·89915		1·78622	0·89967		1·78595	0·90019	2
3		2·68050	1·34717		2·68011	1·34795		2·67972	1·34873		2·67933	1·34951		2·67893	1·35029	3
4		3·57400	1·79623		3·57348	1·79727		3·57296	1·79831		3·57244	1·79935		3·57191	1·80039	4
5		4·46751	2·24529		4·46685	2·24659		4·46620	2·24789		4·46555	2·24919		4·46489	2·25049	5
6		5·36101	2·69435		5·36022	2·69591		5·35944	2·69747		5·35866	2·69903		5·35787	2·70059	6
7		6·25451	3·14341		6·25359	3·14523		6·25268	3·14705		6·25177	3·14887		6·25085	3·15068	7
8		7·14801	3·59247		7·14697	3·59455		7·14592	3·59663		7·14488	3·59870		7·14383	3·60078	8
9		8·04151	4·04153		8·04034	4·04387		8·03916	4·04621		8·03799	4·04854		8·03681	4·05088	9
10	19	8·93502	4·49059	18	8·93371	4·49319	17	8·93240	4·49579	16	8·93110	4·49838	15	8·92979	4·50098	10
1	51	0·89219	0·45165	52	0·89206	0·45191	53	0·89192	0·45217	54	0·89179	0·45243	55	0·89166	0·45269	1
2		1·78438	0·90331		1·78412	0·90383		1·78385	0·90435		1·78359	0·90486		1·78333	0·90538	2
3		2·67657	1·35496		2·67618	1·35574		2·67578	1·35652		2·67539	1·35730		2·67499	1·35808	3
4		3·56876	1·80662		3·56824	1·80766		3·56771	1·80870		3·56719	1·80973		3·56666	1·81077	4
5		4·46096	2·25828		4·46030	2·25957		4·45964	2·26087		4·45898	2·26217		4·45832	2·26347	5
6		5·35315	2·70993		5·35236	2·71149		5·35157	2·71305		5·35078	2·71460		5·34999	2·71616	6
7		6·24534	3·16159		6·24442	3·16341		6·24350	3·16522		6·24258	3·16704		6·24166	3·16885	7
8		7·13753	3·61325		7·13648	3·61532		7·13543	3·61740		7·13438	3·61947		7·13332	3·62155	8
9		8·02972	4·06490		8·02854	4·06724		8·02736	4·06957		8·02617	4·07191		8·02499	4·07424	9
10	09	8·92192	4·51656	08	8·92060	4·51915	07	8·91929	4·52175	06	8·91797	4·52434	05	8·91666	4·52694	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M	Dep.	Lat.	D.

DEG. 63.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·89802	0·43993	07	0·89790	0·44020	08	0·89777	0·44046	09	0·89764	0·44072	10	0·89751	0·44098	1
2		1·79605	0·87987		1·79580	0·88040		1·79554	0·88092		1·79528	0·88144		1·79503	0·88196	2
3		2·69408	1·31981		2·69370	1·32060		2·69331	1·32138		2·69292	1·32216		2·69254	1·32295	3
4		3·59211	1·75975		3·59160	1·76080		3·59108	1·76184		3·59057	1·76289		3·59006	1·76393	4
5		4·49013	2·19969		4·48950	2·20100		4·48885	2·20230		4·48821	2·20361		4·48757	2·20491	5
6		5·38816	2·63963		5·38740	2·64120		5·38662	2·64276		5·38585	2·64433		5·38509	2·64590	6
7		6·28619	3·07957		6·28530	3·08140		6·28440	3·08323		6·28350	3·08505		6·28260	3·08688	7
8		7·18422	3·51951		7·18320	3·52160		7·18217	3·52369		7·18114	3·52578		7·18012	3·52787	8
9		8·08224	3·95945		8·08110	3·96180		8·07994	3·96415		8·07878	3·96650		8·07763	3·96885	9
10	54	8·98027	4·39939	53	8·97900	4·40200	52	8·97771	4·40461	51	8·97643	4·40722	50	8·97515	4·40983	10
1	16	0·89674	0·44255	17	0·89661	0·44281	18	0·89648	0·44307	19	0·89635	0·44333	20	0·89622	0·44359	1
2		1·79348	0·88510		1·79323	0·88562		1·79297	0·88614		1·79271	0·88666		1·79245	0·88718	2
3		2·69023	1·32765		2·68984	1·32843		2·68945	1·32921		2·68907	1·32999		2·68868	1·33077	3
4		3·58697	1·77020		3·58646	1·77124		3·58594	1·77228		3·58543	1·77332		3·58491	1·77437	4
5		4·48372	2·21275		4·48307	2·21405		4·48243	2·21535		4·48178	2·21666		4·48114	2·21796	5
6		5·38046	2·65530		5·37969	2·65686		5·37891	2·65842		5·37814	2·65999		5·37737	2·66155	6
7		6·27720	3·09785		6·27630	3·09967		6·27540	3·10149		6·27450	3·10332		6·27359	3·10514	7
8		7·17395	3·54040		7·17292	3·54248		7·17189	3·54456		7·17086	3·54665		7·16982	3·54874	8
9		8·07069	3·98295		8·06953	3·98529		8·06837	3·98764		8·06721	3·98998		8·06605	3·99233	9
10	44	8·96744	4·42550	43	8·96615	4·42810	42	8·96486	4·43071	41	8·96357	4·43332	40	8·96228	4·43592	10
1	26	0·89545	0·44515	27	0·89532	0·44541	28	0·89519	0·44567	29	0·89506	0·44593	30	0·89493	0·44619	1
2		1·79090	0·89031		1·79064	0·89083		1·79038	0·89135		1·79012	0·89187		1·78986	0·89239	2
3		2·68635	1·33546		2·68597	1·33625		2·68558	1·33703		2·68519	1·33781		2·68480	1·33859	3
4		3·58181	1·78062		3·58129	1·78166		3·58077	1·78270		3·58025	1·78375		3·57973	1·78479	4
5		4·47726	2·22578		4·47661	2·22708		4·47596	2·22838		4·47532	2·22968		4·47467	2·23098	5
6		5·37271	2·67093		5·37194	2·67250		5·37116	2·67406		5·37038	2·67562		5·36960	2·67718	6
7		6·26817	3·11609		6·26726	3·11791		6·26635	3·11973		6·26544	3·12156		6·26454	3·12338	7
8		7·16362	3·56124		7·16258	3·56333		7·16155	3·56541		7·16051	3·56750		7·15947	3·56958	8
9		8·05907	4·00640		8·05791	4·00875		8·05674	4·01109		8·05557	4·01343		8·05440	4·01578	9
10	34	8·95453	4·45156	33	8·95323	4·45416	32	8·95193	4·45677	31	8·95064	4·45937	30	8·94934	4·46197	10
1	36	0·89415	0·44775	37	0·89402	0·44801	38	0·89389	0·44827	39	0·89376	0·44853	40	0·89363	0·44879	1
2		1·78830	0·89551		1·78804	0·89603		1·78778	0·89655		1·78752	0·89707		1·78726	0·89759	2
3		2·68246	1·34327		2·68207	1·34405		2·68168	1·34483		2·68128	1·34561		2·68089	1·34639	3
4		3·57661	1·79103		3·57609	1·79207		3·57557	1·79311		3·57505	1·79415		3·57453	1·79519	4
5		4·47077	2·23879		4·47012	2·24009		4·46946	2·24139		4·46881	2·24269		4·46816	2·24399	5
6		5·36492	2·68655		5·36414	2·68811		5·36336	2·68967		5·36257	2·69123		5·36179	2·69279	6
7		6·25907	3·13431		6·25816	3·13613		6·25725	3·13795		6·25634	3·13977		6·25542	3·14159	7
8		7·15323	3·58207		7·15219	3·58415		7·15114	3·58623		7·15010	3·58831		7·14906	3·59039	8
9		8·04738	4·02983		8·04621	4·03217		8·04504	4·03451		8·04386	4·03685		8·04269	4·03919	9
10	24	8·94154	4·47759	23	8·94024	4·48019	22	8·93893	4·48279	21	8·93763	4·48539	20	8·93632	4·48799	10
1	46	0·89284	0·45035	47	0·89271	0·45061	48	0·89258	0·45087	49	0·89245	0·45113	50	0·89232	0·45139	1
2		1·78569	0·90071		1·78543	0·90123		1·78517	0·90175		1·78490	0·90227		1·78464	0·90279	2
3		2·67854	1·35107		2·67815	1·35185		2·67775	1·35263		2·67736	1·35341		2·67697	1·35419	3
4		3·57139	1·80143		3·57086	1·80247		3·57034	1·80351		3·56981	1·80454		3·56929	1·80558	4
5		4·46424	2·25179		4·46358	2·25309		4·46292	2·25438		4·46227	2·25568		4·46161	2·25698	5
6		5·35708	2·70214		5·35630	2·70370		5·35551	2·70526		5·35472	2·70682		5·35394	2·70838	6
7		6·24993	3·15250		6·24901	3·15432		6·24810	3·15614		6·24718	3·15796		6·24626	3·15977	7
8		7·14278	3·60286		7·14173	3·60494		7·14068	3·60702		7·13963	3·60909		7·13858	3·61117	8
9		8·03563	4·05322		8·03445	4·05556		8·03327	4·05789		8·03209	4·06023		8·03091	4·06257	9
10	14	8·92848	4·50358	13	8·92717	4·50618	12	8·92585	4·50877	11	8·92454	4·51137	10	8·92323	4·51396	10
1	56	0·89153	0·45295	57	0·89140	0·45321	58	0·89127	0·45347	59	0·89113	0·45373	60	0·89100	0·45399	1
2		1·78306	0·90590		1·78280	0·90642		1·78254	0·90694		1·78227	0·90746		1·78201	0·90798	2
3		2·67460	1·35886		2·67420	1·35963		2·67381	1·36041		2·67341	1·36119		2·67301	1·36197	3
4		3·56613	1·81181		3·56560	1·81285		3·56508	1·81388		3·56455	1·81492		3·56402	1·81596	4
5		4·45767	2·26476		4·45701	2·26606		4·45635	2·26736		4·45569	2·26865		4·45503	2·26995	5
6		5·34920	2·71772		5·34841	2·71927		5·34762	2·72083		5·34683	2·72238		5·34603	2·72394	6
7		6·24073	3·17067		6·23981	3·17248		6·23889	3·17430		6·23796	3·17611		6·23704	3·17793	7
8		7·13227	3·62362		7·13121	3·62570		7·13016	3·62777		7·12910	3·62985		7·12805	3·63192	8
9		8·02380	4·07658		8·02262	4·07891		8·02143	4·08124		8·02024	4·08358		8·01905	4·08591	9
10	04	8·91534	4·52953	03	8·91402	4·53212	02	8·91270	4·53472	01	8·91138	4·53731	00	8·91006	4·53990	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D

63 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·89087	0·45425	02	0·89074	0·45450	03	0·89061	0·45476	04	0·89047	0·45502	05	0·89034	0·45528	1
2		1·78174	0·90850		1·78148	0·90901		1·78122	0·90953		1·78095	0·91005		1.78069	0·91057	2
3		2·67262	1·36275		2·67222	1·36352		2·67183	1·36430		2·67143	1·36508		2·67103	1·36585	3
4		3·56349	1·81700		3·56296	1·81803		3·56244	1·81907		3·56191	1·82010		3·56138	1·82114	4
5		4·45437	2·27125		4·45371	2·27254		4·45305	2·27384		4·45238	2·27513		4·45172	2·27643	5
6		5·34524	2·72550		5·34445	2·72705		5·34366	2·72860		5·34286	2·73016		5·34207	2·73171	6
7		6·23612	3·17975		6·23519	3·18156		6·23427	3·18337		6·23334	3·18518		6·23241	3·18700	7
8		7·12699	3·63400		7·12593	3·63607		7·12488	3·63814		7·12382	3·64021		7·12276	3·64228	8
9		8·01786	4·08825		8·01668	4·09057		8·01549	4·09291		8·01429	4·09524		8·01310	4·09757	9
10	59	8·90874	4·54250	58	8·90742	4·54508	57	8·90610	4·54768	56	8·90477	4·55027	55	8·90345	4·55286	10
1	11	0·88954	0·45683	12	0·88941	0·45709	13	0·88928	0·45735	14	0·88915	0·45761	15	0·88901	0·45787	1
2		1·77909	0·91367		1·77883	0·91419		1·77856	0·91471		1·77830	0·91523		1·77803	0·91574	2
3		2·66864	1·37051		2·66824	1·37129		2·66785	1·37206		2·66745	1·37284		2·66705	1·37362	3
4		3·55819	1·82735		3·55766	1·82839		3·55713	1·82942		3·55660	1·83046		3·55606	1·83149	4
5		4·44774	2·28419		4·44708	2·28549		4·44641	2·28678		4·44575	2·28807		4·44508	2·28937	5
6		5·33729	2·74103		5·33649	2·74258		5·33570	2·74413		5·33490	2·74569		5·33410	2·74724	6
7		6·22684	3·19787		6·22591	3·19968		6·22498	3·20149		6·22405	3·20330		6·22311	3·20511	7
8		7·11639	3·65471		7·11533	3·65678		7·11426	3·65885		7·11320	3·66092		7·11213	3·66299	8
9		8·00594	4·11155		8·00474	4·11388		8·00355	4·11620		8·00235	4·11853		8·00115	4·12086	9
10	49	8·89549	4·56839	48	8·89416	4·57098	47	8·89283	4·57356	46	8·89150	4·57615	45	8·89017	4·57874	10
1	21	0·88821	0·45942	22	0·88808	0·45968	23	0·88794	0·45994	24	0·88781	0·46020	25	0·88768	0·46045	1
2		1·77643	0·91884		1·77616	0·91936		1·77589	0·91988		1·77563	0·92040		1·77536	0·92091	2
3		2·66464	1·37827		2·66424	1·37904		2·66384	1·37982		2·66344	1·38060		2·66304	1·38137	3
4		3·55286	1·83769		3·55233	1·83873		3·55179	1·83976		3·55126	1·84080		3·55072	1·84183	4
5		4·44108	2·29712		4·44041	2·29841		4·43974	2·29970		4·43907	2·30100		4·43840	2·30229	5
6		5·32929	2·75654		5·32849	2·75809		5·32769	2·75964		5·32689	2·76120		5·32608	2·76274	6
7		6·21751	3·21597		6·21658	3·21778		6·21564	3·21959		6·21470	3·22140		6·21377	3·22320	7
8		7·10573	3·67539		7·10466	3·67746		7·10359	3·67953		7·10252	3·68160		7·10145	3·68366	8
9		7·99394	4·13482		7·99274	4·13714		7·99154	4·13947		7·99033	4·14180		7·98913	4·14412	9
10	39	8·88216	4·59424	38	8·88083	4·59683	37	8·87949	4·59941	36	8·87815	4·60200	35	8·87681	4·60458	10
1	31	0·88687	0·46200	32	0·88674	0·46226	33	0·88660	0·46252	34	0·88647	0·46278	35	0·88633	0·46303	1
2		1·77375	0·92401		1·77348	0·92452		1·77321	0·92504		1·77294	0·92556		1·77267	0·92607	2
3		2·66062	1·38601		2·66022	1·38679		2·65982	1·38756		2·65941	1·38834		2·65901	1·38911	3
4		3·54750	1·84802		3·54696	1·84905		3·54643	1·85009		3·54589	1·85112		3·54535	1·85215	4
5		4·43438	2·31003		4·43371	2·31132		4·43303	2·31261		4·43236	2·31390		4·43169	2·31519	5
6		5·32125	2·77203		5·32045	2·77358		5·31964	2·77513		5·31883	2·77668		5·31802	2·77822	6
7		6·20813	3·23404		6·20719	3·23585		6·20625	3·23765		6·20531	3·23946		6·20436	3·24126	7
8		7·09501	3·69605		7·09393	3·69811		7·09286	3·70018		7·09178	3·70224		7·09070	3·70430	8
9		7·98188	4·15805		7·98067	4·16038		7·97946	4·16270		7·97825	4·16502		7·97704	4·16734	9
10	29	8·86876	4·62006	28	8·86742	4·62264	27	8·86607	4·62522	26	8·86473	4·62780	25	8·86338	4·63038	10
1	41	0·88552	0·46458	42	0·88539	0·46484	43	0·88525	0·46510	44	0·88512	0·46535	45	0·88498	0·46561	1
2		1·77105	0·92916		1·77078	0·92968		1·77051	0·93020		1·77024	0·93071		1·76997	0·93122	2
3		2·65658	1·39375		2·65618	1·39452		2·65577	1·39530		2·65536	1·39607		2·65496	1·39684	3
4		3·54211	1·85833		3·54157	1·85936		3·54103	1·86040		3·54049	1·86142		3·53995	1·86245	4
5		4·42764	2·32292		4·42696	2·32421		4·42629	2·32550		4·42561	2·32678		4·42493	2·32807	5
6		5·31317	2·78750		5·31236	2·78905		5·31155	2·79060		5·31073	2·79214		5·30992	2·79368	6
7		6·19870	3·25209		6·19775	3·25389		6·19680	3·25570		6·19586	3·25749		6·19491	3·25930	7
8		7·08423	3·71667		7·08314	3·71873		7·08206	3·72080		7·08098	3·72285		7·07990	3·72491	8
9		7·96975	4·18126		7·96854	4·18357		7·96732	4·18590		7·96610	4·18821		7·96488	4·19053	9
10	19	8·85528	4·64584	18	8·85393	4·64842	17	8·85258	4·65100	16	8·85123	4·65357	15	8·84987	4·65614	10
1	51	0·88417	0·46715	52	0·88403	0·46741	53	0·88390	0·46767	54	0·88376	0·46793	55	0·88362	0·46818	1
2		1·76834	0·93431		1·76807	0·93483		1·76780	0·93534		1·76753	0·93586		1·76725	0·93637	2
3		2·65252	1·40147		2·65211	1·40224		2·65170	1·40301		2·65129	1·40379		2·65088	1·40456	3
4		3·53669	1·86863		3·53615	1·86966		3·53560	1·87069		3·53506	1·87172		3·53451	1·87274	4
5		4·42086	2·33579		4·42018	2·33707		4·41950	2·33836		4·41882	2·33965		4·41814	2·34093	5
6		5·30504	2·80295		5·30422	2·80449		5·30341	2·80603		5·30259	2·80758		5·30177	2·80912	6
7		6·18921	3·27010		6·18826	3·27190		6·18731	3·27370		6·18635	3·27551		6·18540	3·27730	7
8		7·07338	3·73726		7·07230	3·73932		7·07121	3·74138		7·07012	3·74344		7·06903	3·74549	8
9		7·95756	4·20442		7·95633	4·20674		7·95511	4·20905		7·95389	4·21137		7·95266	4·21368	9
10	09	8·84173	4·67158	08	8·84037	4·67415	07	8·83901	4·67672	06	8·83765	4·67930	05	8·83629	4·68187	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 62.

D.	M.	Lat	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·89021	0·45554	07	0·89008	0·45580	08	0·88994	0·45606	09	0·88981	0·45632	10	0·88968	0·45658	1
2		1·78042	0·91108		1·78016	0·91160		1·77989	0·91212		1·77962	0·91264		1·77936	0·91316	2
3		2·67063	1·36663		2·67024	1·36741		2·66984	1·36818		2·66944	1·36896		2·66904	1·36974	3
4		3·56085	1·82217		3·56032	1·82321		3·55979	1·82425		3·55925	1·82528		3·55872	1·82632	4
5		4·45106	2·27772		4·45040	2·27901		4·44973	2·28031		4·44907	2·28160		4·44841	2·28290	5
6		5·34127	2·73326		5·34048	2·73482		5·33968	2·73637		5·33888	2·73792		5·33809	2·73948	6
7		6·23148	3·18881		6·23056	3·19062		6·22963	3·19243		6·22870	3·19425		6·22777	3·19606	7
8		7·12170	3·64435		7·12064	3·64643		7·11958	3·64850		7·11851	3·65057		7·11745	3·65264	8
9		8·01191	4·09990		8·01072	4·10223		8·00952	4·10456		8·00833	4·10689		8·00713	4·10922	9
10	54	8·90212	4·55545	53	8·90080	4·55803	52	8·89947	4·56062	51	8·89815	4·56321	50	8·89682	4·56580	10
1	16	0·88888	0·45813	17	0·88875	0·45839	18	0·88861	0·45865	19	0·88848	0·45890	20	0·88835	0·45916	1
2		1·77776	0·91626		1·77750	0·91678		1·77723	0·91730		1·77696	0·91781		1·77670	0·91833	2
3		2·66665	1·37439		2·66625	1·37517		2·66585	1·37595		2·66545	1·37672		2·66505	1·37749	3
4		3·55553	1·83253		3·55500	1·83356		3·55446	1·83460		3·55393	1·83563		3·55340	1·83666	4
5		4 44442	2·29066		4·44375	2·29195		4·44308	2·29325		4·44241	2·29454		4·44175	2·29583	5
6		5·33330	2·74879		5·33250	2·75034		5·33170	2·75190		5·33090	2·75344		5·33010	2·75499	6
7		6·22218	3·20692		6·22125	3·20873		6·22032	3·21055		6·21938	3·21235		6·21845	3·21416	7
8		7·11107	3·66506		7·11000	3·66712		7·10893	3·66920		7·10787	3·67126		7·10680	3·67333	8
9		7·99995	4·12319		7·99875	4·12551		7·99755	4·12785		7·99635	4·13017		7·99515	4·13249	9
10	44	8·88884	4·58132	43	8·88750	4·58391	42	8·88617	4·58650	41	8·88483	4·58908	40	8·88350	4 59166	10
1	26	0·88754	0·46071	27	0·88741	0·46097	28	0·88727	0·46123	29	0·88714	0·46149	30	0·88701	0·46174	1
2		1·77509	0·92143		1·77482	0·92194		1·77455	0·92246		1·77429	0·92298		1·77402	0·92349	2
3		2·66264	1·38214		2·66224	1·38292		2·66183	1·38369		2·66143	1·38447		2·66103	1·38524	3
4		3·55019	1·84286		3·54965	1·84389		3·54911	1·84493		3·54858	1·84596		3·54804	1·84699	4
5		4·43773	2·30358		4·43706	2·30487		4·43639	2·30616		4·43572	2·30745		4·43505	2·30874	5
6		5·32528	2·76429		5·32448	2·76584		5·32367	2·76739		5·32287	2·76894		5·32206	2·77049	6
7		6·21283	3·22501		6·21189	3·22682		6·21095	3·22862		6·21001	3·23043		6·20907	3·23224	7
8		7·10038	3 68572		7·09930	3·68779		7·09823	3·68986		7·09716	3 69192		7·09608	3·69398	8
9		7·98792	4·14644		7·98672	4·14876		7·98551	4·15109		7·98430	4·15341		7·98309	4·15573	9
10	34	8·87547	4 60716	33	8·87413	4·60974	32	8·87279	4·61232	31	8·87145	4·61490	30	8·87010	4·61748	10
1	36	0·88620	0·46329	37	0·88606	0·46355	38	0·88593	0·46381	39	0·88579	0·46406	40	0·88566	0·46432	1
2		1·77240	0·92659		1·77213	0·92710		1·77186	0·92762		1·77159	0·92813		1·77132	0·92865	2
3		2·65861	1·38988		2·65820	1·39066		2·65780	1·39143		2·65739	1·39220		2·65699	1·39298	3
4		3·54481	1·85318		3·54427	1·85421		3·54373	1·85524		3·54319	1·85627		3·54265	1·85730	4
5		4·43101	2·31648		4·43034	2·31776		4·42967	2·31905		4·42899	2·32034		4·42832	2·32163	5
6		5·31722	2·77977		5·31641	2·78132		5·31560	2·78286		5·31479	2·78441		5·31398	2·78596	6
7		6·20342	3·24307		6·20248	3·24487		6·20153	3·24668		6·20059	3·24848		6·19964	3·25028	7
8		7·08962	3 70636		7·08855	3·70843		7·08747	3·71049		7·08639	3·71255		7·08531	3·71461	8
9		7·97583	4·16966		7·97461	4·17198		7·97340	4·17430		7·97219	4·17662		7·97097	4·17894	9
10	24	8·86203	4·63296	23	8·86068	4·63553	22	8·85934	4·63811	21	8·85799	4·64069	20	8·85664	4·64327	10
1	46	0·88485	0·46587	47	0·88471	0·46612	48	0·88458	0·46638	49	0·88444	0·46664	50	0·88430	0 46690	1
2		1·76970	0·93174		1·76943	0·93225		1·76916	0·93277		1·76889	0·93328		1·76861	0·93380	2
3		2·65455	1·39761		2·65414	1·39838		2·65374	1·39915		2·65333	1·39993		2·65292	1·40070	3
4		3·53940	1·86348		3 53886	1·86451		3·53832	1·86554		3·53778	1·86657		3·53723	1·86760	4
5		4·42426	2·32936		4·42358	2·33064		4·42290	2·33193		4·42222	2·33322		4·42154	2·33450	5
6		5·30911	2·79523		5·30829	2·79677		5·30748	2·79831		5·30667	2·79986		5·30585	2·80140	6
7		6·19396	3·26110		6·19301	3·26290		6·19206	3·26470		6·19111	3·26650		6·19016	3·26830	7
8		7·07881	3·72697		7·07773	3·72903		7·07664	3·73109		7·07556	3·73315		7·07447	3·73520	8
9		7·96366	4·19284		7·96244	4·19516		7·96122	4·19747		7·96000	4·19979		7·95878	4·20211	9
10	14	8·84852	4·65872	13	8·84716	4·66129	12	8·84581	4·66386	11	8·84445	4·66644	10	8·84309	4·66901	10
1	56	0·88349	0·46844	57	0·88335	0·46870	58	0·88322	0 46895	59	0·88308	0 46921	60	0·88294	0·46947	1
2		1·76698	0·93688		1·76671	0·93740		1·76644	0·93791		1·76616	0·93842		1·76589	0 93894	2
3		2·65047	1·40533		2·65007	1·40610		2·64966	1·40687		2·64925	1·40764		2·64884	1·40841	3
4		3·53397	1·87377		3·53342	1·87480		3·53288	1·87583		3·53233	1·87685		3·53179	1·87788	4
5		4·41746	2·34222		4·41678	2·34350		4·41610	2·34478		4·41542	2·34607		4·41473	2·34735	5
6		5·30095	2·81066		5·30014	2·81220		5·29932	2·81374		5·29850	2·81528		5·29768	2·81682	6
7		6·18445	3·27910		6·18349	3·28090		6·18254	3·28270		6 18158	3·28450		6·18063	3·28630	7
8		7·06794	3·74755		7·06685	3·74960		7 06576	3·75166		7·06467	3·75371		7·06358	3·75577	8
9		7·95143	4·21599		7·95021	4·21830		7·94898	4·22062		7·94775	4·22293		7·94652	4·22524	9
10	04	8·83493	4·68444	03	8·83357	4·68701	02	8·83220	4·68957	01	8·83084	4·69214	00	8·82947	4·69471	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.		Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

5

62 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·88281	0·46972	02	0·88267	0·46998	03	0·88253	0·47024	04	0·88240	0·47049	05	0·83226	0·47075	1
2		1·76562	0·93945		1·76534	0·93997		1·76507	0·94048		1·76480	0·94099		1·76452	0·94151	2
3		2·64843	1·40918		2·64802	1·40995		2·64761	1·41072		2·64720	1·41149		2·64679	1·41226	3
4		3·53124	1·87891		3·53069	1·87994		3·53015	1·88096		3·52960	1·88199		3·52905	1·88302	4
5		4·41405	2·34864		4·41337	2·34992		4·41268	2·35121		4·41200	2·35249		4·41131	2·35377	5
6		5·29686	2·81837		5·29604	2·81991		5·29522	2·82145		5·29440	2·82299		5·29358	2·82453	6
7		6·17967	3·28809		6·17872	3·28989		6·17776	3·29169		6·17680	3·29349		6·17584	3·29528	7
8		7·06248	3·75782		7·06139	3·75988		7·06030	3·76193		7·05920	3·76398		7·05811	3·76604	8
9		7·94529	4·22755		7·94406	4·22986		7·94283	4·23217		7·94160	4·23448		7·94037	4·23679	9
10	59	8·82811	4·69728	58	8·82674	4·69985	57	8·82537	4·70242	56	8·82400	4·70498	55	8·82263	4·70755	10
1	11	0·88144	0·47229	12	0·88130	0·47255	13	0·88116	0·47280	14	0·88102	0·47306	15	0·88089	0·47332	1
2		1·76288	0·94458		1·76260	0·94510		1·76233	0·94561		1·76205	0·94612		1·76178	0·94664	2
3		2·64432	1·41688		2·64391	1·41765		2·64349	1·41842		2·64308	1·41919		2·64267	1·41996	3
4		3·52576	1·88917		3·52521	1·89020		3·52466	1·89122		3·52411	1·89225		3·52356	1·89328	4
5		4·40720	2·36147		4·40651	2·36275		4·40583	2·36403		4·40514	2·36531		4·40445	2·36660	5
6		5·28864	2·83376		5·28782	2·83530		5·28699	2·83684		5·28617	2·83838		5·28534	2·83992	6
7		6·17008	3·30606		6·16912	3·30785		6·16816	3·30964		6·16719	3·31144		6·16623	3·31324	7
8		7·05152	3·77835		7·05042	3·78040		7·04932	3·78245		7·04822	3·78450		7·04712	3·78656	8
9		7·93296	4·25064		7·93173	4·25295		7·93049	4·25526		7·92925	4·25757		7·92801	4·25988	9
10	49	8·81441	4·72294	48	8·81303	4·72550	47	8·81166	4·72807	46	8·81028	4·73063	45	8·80890	4·73320	10
1	21	0·88006	0·47485	22	0·87992	0·47511	23	0·87978	0·47536	24	0·87964	0·47562	25	0·87951	0·47588	1
2		1·76012	0·94971		1·75985	0·95022		1·75957	0·95073		1·75929	0·95124		1·75902	0·95176	2
3		2·64018	1·42456		2·63977	1·42533		2·63936	1·42610		2·63894	1·42687		2·63853	1·42764	3
4		3·52025	1·89942		3·51970	1·90044		3·51914	1·90147		3·51859	1·90249		3·51804	1·90352	4
5		4·40031	2·37428		4·39962	2·37556		4·39893	2·37684		4·39824	2·37812		4·39755	2·37940	5
6		5·28037	2·84913		5·27955	2·85067		5·27872	2·85220		5·27789	2·85374		5·27706	2·85528	6
7		6·16044	3·32399		6·15947	3·32578		6·15850	3·32757		6·15754	3·32936		6·15657	3·33116	7
8		7·04050	3·79885		7·03940	3·80089		7·03829	3·80294		7·03718	3·80499		7·03608	3·80704	8
9		7·92056	4·27370		7·91932	4·27601		7·91808	4·27831		7·91683	4·28061		7·91559	4·28292	9
10	39	8·80063	4·74856	38	8·79925	4·75112	37	8·79787	4·75368	36	8·79648	4·75624	35	8·79510	4·75880	10
1	31	0·87867	0·47741	32	0·87853	0·47767	33	0·87840	0·47792	34	0·87826	0·47818	35	0·87812	0·47843	1
2		1·75735	0·95482		1·75707	0·95534		1·75680	0·95585		1·75652	0·95636		1·75624	0·95687	2
3		2·63603	1·43224		2·63561	1·43301		2·63520	1·43377		2·63478	1·43454		2·63436	1·43530	3
4		3·51471	1·90965		3·51415	1·91068		3·51360	1·91170		3·51304	1·91272		3·51248	1·91374	4
5		4·39339	2·38707		4·39269	2·38835		4·39200	2·38962		4·39130	2·39090		4·39061	2·39218	5
6		5·27206	2·86448		5·27123	2·86602		5·27040	2·86755		5·26956	2·86908		5·26873	2·87061	6
7		6·15074	3·34190		6·14977	3·34369		6·14880	3·34547		6·14782	3·34726		6·14685	3·34905	7
8		7·02942	3·81931		7·02831	3·82136		7·02720	3·82340		7·02609	3·82544		7·02497	3·82749	8
9		7·90810	4·29672		7·90685	4·29903		7·90560	4·30132		7·90435	4·30362		7·90309	4·30592	9
10	29	8·78678	4·77414	28	8·78539	4·77670	27	8·78400	4·77925	26	8·78261	4·78181	25	8·78122	4·78436	10
1	41	0·87728	0·47996	42	0·87714	0·48022	43	0·87700	0·48047	44	0·87686	0·48073	45	0·87672	0·48098	1
2		1·75457	0·95993		1·75429	0·96044		1·75401	0·96095		1·75373	0·96146		1·75345	0·96197	2
3		2·63185	1·43990		2·63143	1·44067		2·63101	1·44143		2·63059	1·44220		2·63018	1·44296	3
4		3·50914	1·91987		3·50858	1·92089		3·50802	1·92191		3·50746	1·92293		3·50690	1·92395	4
5		4·38642	2·39984		4·38573	2·40111		4·38503	2·40239		4·38433	2·40366		4·38363	2·40494	5
6		5·26371	2·87980		5·26287	2·88134		5·26203	2·88287		5·26119	2·88440		5·26036	2·88593	6
7		6·14100	3·35977		6·14002	3·36156		6·13904	3·36335		6·13806	3·36513		6·13708	3·36692	7
8		7·01828	3·83974		7·01716	3·84178		7·01605	3·84382		7·01493	3·84586		7·01381	3·84791	8
9		7·89557	4·31971		7·89431	4·32201		7·89305	4·32430		7·89179	4·32660		7·89054	4·32889	9
10	19	8·77285	4·79968	18	8·77146	4·80223	17	8·77006	4·80478	16	8·76866	4·80733	15	8·76726	4·80988	10
1	51	0·87588	0·48251	52	0·87574	0·48277	53	0·87560	0·48302	54	0·87546	0·48328	55	0·87532	0·48353	1
2		1·75177	0·96503		1·75149	0·96554		1·75121	0·96605		1·75092	0·96656		1·75064	0·96707	2
3		2·62765	1·44755		2·62723	1·44831		2·62681	1·44908		2·62639	1·44984		2·62597	1·45061	3
4		3·50354	1·93007		3·50298	1·93109		3·50242	1·93211		3·50185	1·93312		3·50129	1·93414	4
5		4·37943	2·41259		4·37872	2·41386		4·37802	2·41513		4·37732	2·41641		4·37661	2·41768	5
6		5·25531	2·89510		5·25447	2·89663		5·25363	2·89816		5·25278	2·89969		5·25194	2·90122	6
7		6·13120	3·37762		6·13021	3·37941		6·12923	3·38119		6·12825	3·38297		6·12726	3·38475	7
8		7·00708	5·86014		7·00596	3·86218		7·00484	3·86422		7·00371	3·86625		7·00259	3·86829	8
9		7·88297	4·34266		7·88170	4·34495		7·88044	4·34724		7·87918	4·34954		7·87791	4·35183	9
10	09	8·75886	4·82518	08	8·75745	4·82773	07	8·75605	4·83027	06	8·75464	4·83282	05	8·75324	4·83537	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·88212	0·47101	07	0·88198	0·47126	08	0·88185	0·47152	09	0·88171	0·47178	10	0·88157	0·47203	1
2		1·76425	0·94202		1·76397	0·94253		1·76370	0·94305		1·76343	0·94356		1·76315	0·94407	2
3		2·64638	1·41303		2·64596	1·41380		2·64555	1·41457		2·64514	1·41534		2·64473	1·41611	3
4		3·52850	1·88404		3·52795	1·88507		3·52741	1·88610		3·52686	1·88712		3·52631	1·88815	4
5		4·41063	2·35506		4·40994	2·35634		4·40926	2·35762		4·40857	2·35890		4·40789	2·36019	5
6		5·29276	2·82607		5·29193	2·82761		5·29111	2·82915		5·29029	2·83068		5·28946	2·83222	6
7		6·17488	3·29708		6·17392	3·29887		6·17296	3·30067		6·17200	3·30247		6·17104	3·30426	7
8		7·05701	3·76809		7·05591	3·77014		7·05482	3·77220		7·05372	3·77425		7·05262	3·77630	8
9		7·93914	4·23910		7·93790	4·24141		7·93667	4·24372		7·93543	4·24603		7·93420	4·24834	9
10	54	8·82127	4·71012	53	8·81989	4·71268	52	8·81852	4·71525	51	8·81715	4·71781	50	8·81578	4·72038	10
1	16	0·88075	0·47357	17	0·88061	0·47383	18	0·88047	0·47408	19	0·88033	0·47434	20	0·88020	0·47460	1
2		1·76150	0·94715		1·76123	0·94766		1·76095	0·94817		1·76067	0·94868		1·76040	0·94920	2
3		2·64225	1·42072		2·64184	1·42149		2·64143	1·42226		2·64101	1·42303		2·64060	1·42380	3
4		3·52301	1·89430		3·52246	1·89532		3·52190	1·89635		3·52135	1·89737		3·52080	1·89840	4
5		4·40376	2·36788		4·40307	2·36916		4·40238	2·37044		4·40169	2·37172		4·40100	2·37300	5
6		5·28451	2·84145		5·28369	2·84299		5·28286	2·84452		5·28203	2·84606		5·28120	2·84760	6
7		6·16527	3·31503		6·16430	3·31682		6·16334	3·31861		6·16237	3·32041		6·16140	3·32220	7
8		7·04602	3·78860		7·04492	3·79065		7·04381	3·79270		7·04271	3·79475		7·04161	3·79680	8
9		7·92677	4·26218		7·92553	4·26448		7·92429	4·26679		7·92305	4·26909		7·92181	4·27140	9
10	44	8·80753	4·73576	43	8·80615	4·73832	42	8·80477	4·74088	41	8·80339	4·74344	40	8·80201	4·74600	10
1	26	0·87937	0·47613	27	0·87923	0·47639	28	0·87909	0·47664	29	0·87895	0·47690	30	0·87881	0·47715	1
2		1·75874	0·95227		1·75846	0·95278		1·75818	0·95329		1·75791	0·95380		1·75763	0·95431	2
3		2·63811	1·42840		2·63769	1·42917		2·63728	1·42994		2·63686	1·43070		2·63645	1·43147	3
4		3·51748	1·90454		3·51693	1·90556		3·51637	1·90658		3·51582	1·90761		3·51526	1·90863	4
5		4·39685	2·38068		4·39616	2·38195		4·39547	2·38323		4·39478	2·38451		4·39408	2·38579	5
6		5·27623	2·85681		5·27539	2·85835		5·27456	2·85988		5·27373	2·86141		5·27290	2·86295	6
7		6·15560	3·33295		6·15463	3·33474		6·15366	3·33653		6·15269	3·33832		6·15171	3·34011	7
8		7·03497	3·80908		7·03386	3·81113		7·03275	3·81317		7·03164	3·81522		7·03053	3·81727	8
9		7·91434	4·28522		7·91309	4·28752		7·91185	4·28982		7·91060	4·29212		7·90935	4·29442	9
10	34	8·79371	4·76136	33	8·79233	4·76391	32	8·79094	4·76647	31	8·78956	4·76903	30	8·78817	4·77158	10
1	36	0·87798	0·47869	37	0·87784	0·47894	38	0·87770	0·47920	39	0·87756	0·47945	40	0·87742	0·47971	1
2		1·75596	0·95738		1·75568	0·95789		1·75540	0·95840		1·75512	0·95891		1·75485	0·95942	2
3		2·63394	1·43607		2·63353	1·43684		2·63311	1·43760		2·63269	1·43837		2·63227	1·43913	3
4		3·51193	1·91476		3·51137	1·91578		3·51081	1·91681		3·51025	1·91783		3·50970	1·91885	4
5		4·38991	2·39346		4·38921	2·39473		4·38852	2·39601		4·38782	2·39729		4·38712	2·39856	5
6		5·26789	2·87215		5·26706	2·87368		5·26622	2·87521		5·26538	2·87674		5·26455	2·87827	6
7		6·14588	3·35084		6·14490	3·35263		6·14393	3·35441		6·14295	3·35620		6·14197	3·35799	7
8		7·02386	3·82953		7·02274	3·83157		7·02163	3·83362		7·02051	3·83566		7·01940	3·83770	8
9		7·90184	4·30822		7·90059	4·31052		7·89933	4·31282		7·89808	4·31512		7·89682	4·31741	9
10	24	8·77983	4·78692	23	8·77843	4·78947	22	8·77704	4·79202	21	8·77565	4·79458	20	8·77425	4·79713	10
1	46	0·87658	0·48124	47	0·87644	0·48149	48	0·87630	0·48175	49	0·87616	0·48200	50	0·87602	0·48226	1
2		1·75317	0·96248		1·75289	0·96299		1·75261	0·96350		1·75233	0·96401		1·75205	0·96452	2
3		2·62976	1·44373		2·62934	1·44449		2·62892	1·44526		2·62849	1·44602		2·62807	1·44679	3
4		3·50634	1·92497		3·50578	1·92599		3·50522	1·92701		3·50466	1·92803		3·50410	1·92905	4
5		4·38293	2·40621		4·38223	2·40749		4·38153	2·40876		4·38083	2·41004		4·38013	2·41131	5
6		5·25952	2·88746		5·25868	2·88899		5·25784	2·89052		5·25699	2·89205		5·25615	2·89358	6
7		6·13610	3·36870		6·13512	3·37049		6·13414	3·37227		6·13316	3·37406		6·13218	3·37584	7
8		7·01269	3·84995		7·01157	3·85198		7·01045	3·85402		7·00933	3·85606		7·00821	3·85810	8
9		7·88928	4·33119		7·88802	4·33348		7·88676	4·33578		7·88549	4·33807		7·88423	4·34037	9
10	14	8·76586	4·81243	13	8·76446	4·81498	12	8·76306	4·81753	11	8·76166	4·82008	10	8·76026	4·82263	10
1	56	0·87518	0·48379	57	0·87504	0·48404	58	0·87490	0·48430	59	0·87476	0·48455	60	0·87462	0·48481	1
2		1·75036	0·96758		1·75008	0·96809		1·74980	0·96860		1·74952	0·96911		1·74924	0·96962	2
3		2·62554	1·45137		2·62512	1·45213		2·62470	1·45290		2·62428	1·45366		2·62386	1·45443	3
4		3·50073	1·93516		3·50017	1·93618		3·49960	1·93720		3·49904	1·93822		3·49848	1·93924	4
5		4·37591	2·41895		4·37521	2·42023		4·37450	2·42150		4·37380	2·42277		4·37310	2·42405	5
6		5·25109	2·90274		5·25025	2·90427		5·24940	2·90580		5·24856	2·90733		5·24772	2·90886	6
7		6·12628	3·38654		6·12529	3·38832		6·12431	3·39010		6·12332	3·39188		6·12234	3·39367	7
8		7·00146	3·87033		7·00034	3·87236		6·99921	3·87440		6·99808	3·87644		6·99696	3·87848	8
9		7·87664	4·35412		7·87538	4·35641		7·87411	4·35870		7·87284	4·36099		7·87158	4·36329	9
10	04	8·75183	4·83791	03	8·75042	4·84046	02	8·74901	4·84300	01	8·74760	4·84555	00	8·74620	4·84810	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

61 DEG.

DEG. 29.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·87447	0·48506	02	0·87433	0·48531	03	0·87419	0·48557	04	0·87405	0·48582	05	0·87391	0·48608	1
2		1·74895	0·97012		1·74867	0·97063		1·74839	0·97114		1·74811	0·97165		1·74782	0·97216	2
3		2·62343	1·45519		2·62301	1·45595		2·62258	1·45671		2·62216	1·45748		2 62174	1·45824	3
4		3·49791	1·94025		3·49735	1·94127		3·49678	1·94229		3·49622	1·94330		3·49565	1·94432	4
5		4·37239	2·42532		4·37168	2·42659		4·37098	2·42786		4·37027	2·42913		4·36956	2·43040	5
6		5·24687	2·91038		5·24602	2·91191		5·24517	2·91343		5·24433	2·91496		5·24348	2·91648	6
7		6·12135	3·39544		6·12036	3·39722		6·11937	3·39900		6·11838	3·40078		6·11739	3·40256	7
8		6·99582	3·88051		6·99470	3·88254		6·99357	3·88458		6·99244	3·88661		6·99130	3·88864	8
9		7·87030	4·36557		7·86903	4·36786		7·86776	4·37015		7·86649	4·37244		7·86522	4·37473	9
10	59	8·74478	4·85064	58	8·74337	4·85318	57	8·74196	4·85572	56	8·74055	4·85827	55	8·73913	4·86081	10
1	11	0·87306	0·48760	12	0·87292	0·48786	13	0·87278	0·48811	14	0·87263	0·48836	15	0·87249	0·48862	1
2		1·74612	0·97521		1·74584	0·97572		1·74556	0·97622		1·74527	0·97673		1·74499	0·97724	2
3		2·61919	1·46281		2·61876	1·46358		2·61834	1·46434		2·61791	1·46510		2·61748	1·46586	3
4		3·49225	1·95042		3·49168	1·95144		3·49112	1·95245		3·49055	1·95346		3·48998	1·95448	4
5		4·36532	2·43802		4·36461	2 43930		4·36390	2·44056		4·36319	2·44183		4·36248	2·44310	5
6		5·23838	2·92563		5·23753	2 92716		5·23668	2·92868		5·23582	2·93020		5·23497	2·93172	6
7		6·11144	3·41323		6·11045	3 41502		6·10946	3·41679		6·10846	3·41857		6·10747	3·42034	7
8		6·98451	3·90084		6·98337	3·90288		6·98224	3·90490		6·98110	3·90693		6·97996	3·90896	8
9		7·85757	4·38845		7·85629	4·39074		7·85502	4·39302		7·85374	4·39530		7·85246	4·39759	9
10	49	8·73064	4·87605	48	8·72922	4·87860	47	8·72780	4·88113	46	8·72638	4·88367	45	8·72496	4·88621	10
1	21	0·87164	0·49014	22	0·87149	0·49039	23	0·87135	0·49065	24	0·87121	0·49090	25	0·87107	0·49115	1
2		1·74328	0·98028		1·74299	0·98079		1·74271	0·98130		1·74242	0·98180		1·74214	0·98231	2
3		2·61492	1·47042		2·61449	1·47119		2·61406	1·47195		2·61364	1·47271		2·61321	1·47347	3
4		3·48656	1·96057		3·48599	1·96158		3·48542	1·96260		3·48485	1·96361		3·48428	1·96462	4
5		4·35821	2·45071		4·35749	2·45198		4·35678	2·45325		4·35606	2·45451		4·35535	2·45578	5
6		5·22985	2·94085		5·22899	2·94238		5·22813	2·94390		5·22728	2·94542		5·22642	2·94694	6
7		6·10149	3·43100		6·10049	3·43277		6·09949	3·43455		6·09849	3·43632		6·09749	3·43810	7
8		6·97313	3·92114		6·97199	3·92317		6·97085	3·92520		6·96971	3·92723		6·96856	3·92925	8
9		7·84477	4·41128		7·84349	4·41357		7·84220	4·41585		7·84092	4·41813		7·83963	4·42041	9
10	39	8·71642	4·90143	38	8·71499	4·90396	37	8·71356	4·90650	36	8·71213	4·90903	35	8·71071	4·91157	10
1	31	0·87021	0·49267	32	0·87006	0·49293	33	0·86992	0·49318	34	0·86978	0·49343	35	0·86963	0·49368	1
2		1·74042	0·98535		1·74013	0·98586		1·73985	0·98636		1·73956	0·98687		1·73927	0·98737	2
3		2·61063	1·47803		2·61020	1·47879		2·60977	1·47954		2·60934	1·48030		2·60891	1·48106	3
4		3·48084	1·97070		3·48027	1·97172		3·47970	1·97273		3·47912	1·97374		3·47855	1·97475	4
5		4·35106	2·46338		4 35034	2·46465		4·34962	2·46591		4·34891	2·46718		4·34819	2·46844	5
6		5·22127	2·95606		5·22041	2·95758		5·21955	2·95909		5·21869	2·96061		5·21783	2·96213	6
7		6·09148	3·44873		6·09048	3·45051		6·08947	3·45228		6·08847	3·45405		6·08747	3·45582	7
8		6·96169	3·94141		6·96055	3·94344		6·95940	3·94546		6·95825	3·94748		6·95710	3·94951	8
9		7·83191	4·43409		7·83062	4·43637		7·82933	4·43864		7·82803	4·44092		7·82674	4·44320	9
10	29	8·70212	4·92676	28	8·70069	4·92930	27	8·69925	4·93183	26	8·69782	4·93436	25	8·69638	4·93689	10
1	41	0·86877	0·49520	42	0·86863	0·49545	43	0·86848	0·49571	44	0·86834	0·49596	45	0·86819	0·49621	1
2		1·73755	0·99041		1·73726	0·99091		1·73697	0·99142		1·73668	0·99192		1·73639	0·99243	2
3		2·60632	1·48561		2·60589	1·48637		2·60546	1·48713		2·60502	1·48789		2·60459	1·48864	3
4		3·47510	1·98082		3·47452	1·98183		3·47394	1·98284		3·47337	1·98385		3·47279	1·98486	4
5		4·34387	2·47603		4·34315	2·47729		4·34243	2·47855		4·34171	2·47981		4·34099	2·48108	5
6		5·21265	2·97123		5·21178	2·97275		5·21092	2·97426		5·21005	2·97578		5·20919	2·97729	6
7		6·08142	3·46644		6·08042	3·46821		6·07941	3·46997		6·07840	3·47174		6·07739	3·47351	7
8		6·95020	3·96164		6·94905	3·96366		6·94789	3·96569		6·94674	3·96771		6·94559	3·96973	8
9		7·81898	4·45685		7·81768	4·45912		7·81638	4·46140		7·81508	4·46367		7·81378	4·46594	9
10	19	8·68775	4·95206	18	8·68631	4·95458	17	8·68487	4·95711	16	8·68343	4·95964	15	8·68198	4·96216	10
1	51	0·86733	0·49773	52	0·86718	0·49798	53	0·86704	0·49823	54	0·86689	0·49848	55	0·86675	0·49874	1
2		1·73466	0·99546		1·73437	0·99596		1·73408	0·99647		1·73379	0·99697		1·73350	0·99748	2
3		2·60199	1·49319		2·60155	1·49394		2·60112	1·49470		2·60069	1·49546		2·60025	1·49623	3
4		3·46932	1·99092		3·46874	1·99193		3·46816	1·99294		3·46758	1·99395		3·46700	1·99496	4
5		4·33665	2·48865		4·33593	2·48991		4·33520	2·49117		4·33448	2·49243		4·33375	2·49370	5
6		5·20398	2·98638		5·20311	2·98789		5·20225	2·98941		5·20138	2·99092		5 20051	2·99244	6
7		6·07131	3·48411		6·07030	3·48588		6·06929	3·48764		6·06827	3·48941		6·06726	3·49118	7
8		6·93865	3·98184		6·93749	3·98386		6·93633	3·98588		6·93517	3·98790		6·93401	3·98992	8
9		7·80598	4·47957		7·80467	4·48184		7·80337	4·48411		7·80207	4·48638		7·80076	4·48866	9
10	09	8·67331	4·97731	08	8·67186	4·97983	07	8·67041	4·98235	06	8·66896	4·98487	05	8·66751	4·98740	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 60.

29 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·87377	0·48633	07	0·87363	0 48659	08	0·87348	0·48684	09	0·87334	0·48709	10	0·87320	0·48735	1
2		1·74754	0·97267		1·74726	0·97318		1·74697	0·97368		1·74669	0·97419		1·74641	0·97470	2
3		2·62131	1·45900		2·62089	1·45977		2·62046	1·46053		2·62004	1·46129		2·61961	1·46205	3
4		3·49508	1·94534		3·49452	1·94636		3·49395	1·94737		3·49339	1·94839		3·49282	1·94940	4
5		4·36886	2·43167		4·36815	2·43295		4·36744	2·43421		4·36673	2·43548		4·36602	2·43675	5
6		5·24263	2·91801		5·24178	2·91954		5·24093	2·92106		5·24008	2·92258		5·23923	2·92411	6
7		6·11640	3·40434		6·11541	3·40613		6·11442	3·40790		6·11343	3·40968		6·11244	3·41146	7
8		6·99017	3·89068		6·98904	3·89272		6·98791	3·89474		6·98678	3·89678		6·98564	3·89881	8
9		7·86394	4·37701		7·86267	4·37931		7·86140	4·38159		7·86012	4·38387		7·85885	4·38616	9
10	54	8·73772	4·86335	53	8·73630	4·86590	52	8·73489	4·86843	51	8·73347	4·87097	50	8·73205	4·87351	10
1	16	0·87235	0·48887	17	0·87221	0·48912	18	0·87206	0·48938	19	0·87192	0·48963	20	0·87178	0·48989	1
2		1·74470	0·97775		1·74442	0·97825		1·74413	0·97876		1·74385	0·97927		1·74356	0·97978	2
3		2·61706	1·46662		2·61663	1·46738		2·61620	1·46814		2·61578	1·46890		2·61535	1·46967	3
4		3·48941	1·95550		3·48884	1·95651		3·48827	1·95753		3·48770	1·95854		3·48713	1·95956	4
5		4·36176	2·44437		4·36105	2·44564		4·36034	2·44691		4·35963	2·44818		4·35892	2·44945	5
6		5·23412	2·93325		5·23326	2·93477		5·23241	2·93629		5·23156	2·93781		5·23070	2·93934	6
7		6·10647	3·42212		6·10548	3·42390		6·10448	3·42567		6·10348	3·42745		6·10249	3·42923	7
8		6·97883	3·91100		6·97769	3·91303		6·97655	3·91506		6·97541	3·91708		6·97427	3·91912	8
9		7·85118	4·39987		7·84990	4·40215		7·84862	4·40444		7·84734	4·40672		7·84605	4·40901	9
10	44	8·72353	4·88875	43	8·72211	4·89128	42	8·72069	4·89382	41	8·71927	4·89636	40	8·71784	4·89890	10
1	26	0·87092	0·49141	27	0·87078	0·49166	28	0·87064	0·49191	29	0·87049	0·49217	30	0·87035	0·49242	1
2		1·74185	0·98282		1·74157	0·98332		1·74128	0·98383		1·74099	0·98434		1·74071	0·98484	2
3		2·61278	1·47423		2·61235	1·47499		2·61192	1·47575		2·61149	1·47651		2·61106	1·47727	3
4		3·48371	1·96564		3·48314	1·96665		3·48256	1·96766		3·48199	1·96868		3·48142	1·96969	4
5		4·35464	2·45705		4·35392	2·45831		4·35321	2·45958		4·35249	2·46085		4·35177	2·46211	5
6		5·22556	2·94846		5·22471	2·94998		5·22385	2·95150		5·22299	2·95302		5·22213	2·95454	6
7		6·09649	3·43987		6·09549	3·44164		6·09449	3·44341		6·09349	3·44519		6·09248	3·44696	7
8		6·96742	3·93128		6·96628	3·93331		6·96513	3·93533		6·96399	3·93736		6·96284	3·93938	8
9		7·83835	4·42269		7·83706	4·42497		7·83577	4·42725		7·83449	4·42953		7·83320	4·43181	9
10	34	8·70928	4·91410	33	8·70785	4·91663	32	8·70642	4·91917	31	8·70499	4·92170	30	8·70355	4·92423	10
1	36	0·86949	0·49394	37	0·86935	0·49419	38	0·86920	0·49444	39	0·86906	0·49470	40	0·86892	0·49495	1
2		1·73898	0·98788		1·73870	0·98838		1·73841	0·98889		1·73812	0·98940		1·73784	0·98990	2
3		2·60848	1·48182		2·60805	1·48258		2·60762	1·48334		2·60719	1·48410		2·60676	1·48486	3
4		3·47797	1·97576		3·47740	1·97677		3·47682	1·97779		3·47625	1·97880		3·47568	1·97981	4
5		4·34747	2·46971		4·34675	2·47097		4·34603	2·47223		4·34531	2·47350		4·34460	2·47476	5
6		5·21696	2·96365		5·21610	2·96516		5·21524	2·96668		5·21438	2·96820		5·21352	2·96971	6
7		6·08646	3·45759		6·08545	3·45936		6·08445	3·46113		6·08344	3·46290		6·08244	3·46467	7
8		6·95595	3·95153		6·95480	3·95355		6·95365	3·95558		6·95250	3·95760		6·95136	3·95962	8
9		7·82545	4·44547		7·82416	4·44775		7·82286	4·45002		7·82157	4·45230		7·82028	4·45457	9
10	24	8·69495	4·93942	23	8·69351	4·94194	22	8·69207	4·94447	21	8·69063	4·94700	20	8·68920	4·94953	10
1	46	0·86805	0·49646	47	0·86791	0·49672	48	0·86776	0·49697	49	0·86762	0·49722	50	0·86747	0·49747	1
2		1·73610	0·99293		1·73582	0·99344		1·73553	0·99394		1·73524	0·99445		1·73495	0·99495	2
3		2·60416	1·48940		2·60373	1·49016		2·60329	1·49092		2·60286	1·49167		2·60242	1·49243	3
4		3·47221	1·98587		3·47164	1·98688		3·47106	1·98789		3·47048	1·98890		3·46990	1·98991	4
5		4·34027	2·48234		4·33955	2·48360		4·33882	2·48487		4·33810	2·48613		4·33738	2·48739	5
6		5·20832	2·97881		5·20746	2·98032		5·20659	2·98184		5·20572	2·98335		5·20485	2·98487	6
7		6·07638	3·47528		6·07537	3·47705		6·07435	3·47881		6·07334	3·48058		6·07233	3·48235	7
8		6·94443	3·97175		6·94328	3·97377		6·94212	3·97579		6·94096	3·97781		6·93980	3·97982	8 ·6
9		7·81248	4·46822		7·81119	4·47049		7·80988	4·47276		7·80858	4·47503		7·80728	4·47730	9
10	14	8·68054	4·96469	13	8·67910	4·96721	12	8·67765	4·96974	11	8·67621	4·97226	10	8·67476	4·97478	10
1	56	0·86660	0·49899	57	0·86646	0·49924	58	0·86631	0·49949	59	0·86617	0·49974	60	0·86602	0·50000	1
2		1·73321	0·99798		1·73292	0·99848		1·73263	0·99899		1·73234	0·99949		1·73205	1·00000	2
3		2·59981	1·49697		2·59938	1·49773		2·59894	1·49848		2 59851	1·49924		2·59807	1·50000	3
4		3·46642	1·99596		3·46584	1·99697		3·46526	1·99798		3·46468	1·99899		3·46410	2·00000	4
5		4·33303	2·49496		4·33230	2·49622		4·33158	2·49748		4·33085	2·49874		4·33012	2·50000	5
6		5·19963	2·99395		5·19876	2·99546		5·19789	2·99697		5·19702	2·99848		5·19615	3·00000	6
7		6·06624	3·49294		6·06522	3·49470		6·06421	3·49647		6·06319	3·49823		6·06217	3·50000	7
8		6·93285	3·99193		6·93169	3·99395		6·93052	3·99596		6·92936	3·99798		6·92820	4·00000	8
9		7·79945	4·49092		7·79815	4·49319		7·79684	4·49546		7·79553	4·49773		7·79422	4·50000	9
10	04	8·66606	4·98992	03	8·66461	4·99244	02	8·66316	4·99496	01	8·66170	4·99748	00	8·66025	5·00000	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

60 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·84789	0·53016	02	0·84773	0·53041	03	0·84758	0·53065	04	0·84743	0·53090	05	0·84727	0·53115	1
2		1·69578	1·06033		1·69547	1·06082		1·69517	1·06131		1·69486	1·06181		1·69455	1·06230	2
3		2·54368	1·59049		2·54321	1·59123		2·54275	1·59197		2·54229	1·59271		2·54182	1·59345	3
4		3·39157	2·12066		3·39095	2·12165		3·39034	2·12263		3·38972	2·12362		3·38910	2·12460	4
5		4·23947	2·65083		4·23869	2·65206		4·23792	2·65329		4·23715	2·65452		4·23638	2·65576	5
6		5·08736	3·18099		5·08643	3·18247		5·08551	3·18395		5·08458	3·18543		5·08365	3·18691	6
7		5·93525	3·71116		5·93417	3·71288		5·93309	3·71461		5·93201	3·71633		5·93093	3·71806	7
8		6·78315	4·24132		6·78191	4·24330		6·78068	4·24527		6·77944	4·24724		6·77821	4·24921	8
9		7·63104	4·77149		7·62965	4·77371		7·62826	4·77593		7·62687	4·77815		7·62548	4·78036	9
10	59	8·47894	5·30166	58	8·47739	5·30412	57	8·47585	5·30659	56	8·47431	5·30905	55	8·47276	5·31152	10
1	11	0·84634	0·53263	12	0·84619	0·53287	13	0·84603	0·53312	14	0·84588	0·53336	15	0·84572	0·53361	1
2		1·69269	1·06526		1·69238	1·06575		1·69207	1·06624		1·69176	1·06673		1·69145	1·06722	2
3		2·53904	1·59789		2·53857	1·59862		2·53811	1·59936		2·53764	1·60010		2·53718	1·60084	3
4		3·38539	2·13052		3·38477	2·13150		3·38415	2·13248		3·38353	2·13347		3·38291	2·13445	4
5		4·23174	2·66315		4·23096	2·66438		4·23019	2·66561		4·22941	2·66684		4·22863	2·66807	5
6		5·07808	3·19578		5·07715	3·19725		5·07622	3·19873		5·07529	3·20021		5·07436	3·20168	6
7		5·92443	3·72841		5·92335	3·73013		5·92226	3·73185		5·92118	3·73357		5·92009	3·73530	7
8		6·77078	4·26104		6·76954	4·26301		6·76830	4·26497		6·76706	4·26694		6·76582	4·26891	8
9		7·61713	4·79367		7·61573	4·79588		7·61434	4·79810		7·61294	4·80031		7·61155	4·80253	9
10	49	8·46348	5·32630	48	8·46193	5·32876	47	8·46038	5·33122	46	8·45883	5·33368	45	8·45727	5·33614	10
1	21	0·84479	0·53509	22	0·84464	0·53533	23	0·84448	0·53558	24	0·84432	0·53582	25	0·84417	0·53607	1
2		1·68959	1·07018		1·68928	1·07067		1·68896	1·07116		1·68865	1·07165		1·68834	1·07214	2
3		2·53438	1·60527		2·53392	1·60600		2·53345	1·60674		2·53298	1·60748		2·53251	1·60821	3
4		3·37918	2·14036		3·37856	2·14134		3·37793	2·14232		3·37731	2·14330		3·37668	2·14428	4
5		4·22397	2·67545		4·22320	2·67667		4·22241	2·67790		4·22164	2·67913		4·22086	2·68036	5
6		5·06877	3·21054		5·06784	3·21201		5·06690	3·21348		5·06596	3·21496		5·06503	3·21643	6
7		5·91356	3·74563		5·91248	3·74734		5·91138	3·74906		5·91029	3·75078		5·90920	3·75250	7
8		6·75836	4·28072		6·75712	4·28268		6·75587	4·28464		6·75462	4·28661		6·75337	4·28857	8
9		7·60315	4·81581		7·60176	4·81801		7·60035	4·82023		7·59895	4·82244		7·59754	4·82465	9
10	39	8·44795	5·35090	38	8·44640	5·35335	37	8·44483	5·35581	36	8·44328	5·35826	35	8·44172	5·36072	10
1	31	0·84323	0·53754	32	0·84307	0·53779	33	0·84292	0·53803	34	0·84276	0·53828	35	0·84260	0·53852	1
2		1·68647	1·07508		1·68615	1·07558		1·68584	1·07607		1·68553	1·07656		1·68521	1·07705	2
3		2·52970	1·61263		2·52923	1·61337		2·52876	1·61410		2·52829	1·61484		2·52782	1·61557	3
4		3·37294	2·15017		3·37231	2·15116		3·37168	2·15214		3·37106	2·15312		3·37043	2·15410	4
5		4·21617	2·68772		4·21539	2·68895		4·21461	2·69017		4·21382	2·69140		4·21304	2·69262	5
6		5·05941	3·22526		5·05847	3·22674		5·05753	3·22821		5·05659	3·22968		5·05565	3·23115	6
7		5·90264	3·76281		5·90155	3·76453		5·90045	3·76624		5·89935	3·76796		5·89826	3·76967	7
8		6·74588	4·30035		6·74462	4·30232		6·74337	4·30428		6·74212	4·30624		6·74087	4·30820	8
9		7·58911	4·83790		7·58770	4·84011		7·58629	4·84231		7·58489	4·84452		7·58348	4·84673	9
10	29	8·43235	5·37545	28	8·43078	5·37790	27	8·42922	5·38035	26	8·42765	5·38280	25	8·42609	5·38525	10
1	41	0·84166	0·53999	42	0·84151	0·54024	43	0·84135	0·54048	44	0·84119	0·54073	45	0·84103	0·54097	1
2		1·68333	1·07999		1·68302	1·08048		1·68270	1·08097		1·68239	1·08146		1·68207	1·08194	2
3		2·52500	1·61998		2·52453	1·62072		2·52406	1·62145		2·52358	1·62219		2·52311	1·62292	3
4		3·36667	2·15998		3·36604	2·16096		3·36541	2·16194		3·36478	2·16292		3·36415	2·16389	4
5		4·20834	2·69997		4·20755	2·70120		4·20676	2·70242		4·20598	2·70365		4·20519	2·70487	5
6		5·05000	3·23997		5·04906	3·24144		5·04812	3·24291		5·04717	3·24438		5·04623	3·24584	6
7		5·89167	3·77996		5·89057	3·78168		5·88947	3·78339		5·88837	3·78511		5·88727	3·78682	7
8		6·73334	4·31996		6·73208	4·32192		6·73082	4·32388		6·72957	4·32584		6·72831	4·32779	8
9		7·57501	4·85995		7·57359	4·86216		7·57218	4·86436		7·57076	4·86657		7·56935	4·86877	9
10	19	8·41668	5·39995	18	8·41510	5·40240	17	8·41353	5·40485	16	8·41196	5·40730	15	8·41039	5·40974	10
1	51	0·84009	0·54244	52	0·83993	0·54268	53	0·83977	0·54293	54	0·83962	0·54317	55	0·83946	0·54341	1
2		1·68018	1·08488		1·67987	1·08537		1·67955	1·08586		1·67924	1·08634		1·67892	1·08683	2
3		2·52028	1·62732		2·51980	1·62805		2·51933	1·62879		2·51886	1·62952		2·51838	1·63025	3
4		3·36037	2·16976		3·35974	2·17074		3·35911	2·17172		3·35848	2·17269		3·35784	2·17367	4
5		4·20046	2·71220		4·19967	2·71343		4·19888	2·71465		4·19810	2·71587		4·19730	2·71709	5
6		5·04056	3·25464		5·03961	3·25611		5·03866	3·25758		5·03772	3·25904		5·03677	3·26051	6
7		5·88065	3·79709		5·87954	3·79880		5·87844	3·80051		5·87734	3·80222		5·87623	3·80393	7
8		6·72074	4·33953		6·71948	4·34148		6·71822	4·34344		6·71696	4·34539		6·71569	4·34734	8
9		7·56084	4·88197		7·55942	4·88417		7·55800	4·88637		7·55658	4·88856		7·55515	4·89076	9
10	09	8·40093	5·42441	08	8·39935	5·42686	07	8·39777	5·42930	06	8·39620	5·43174	05	8·39461	5·43418	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 57.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·84712	0·53139	07	0·84696	0·53164	08	0·84681	0·53189	09	0·84665	0·53213	10	0·84650	0·53238	1
2		1·69424	1·06279		1·69393	1·06329		1·69362	1·06378		1·69331	1·06427		1·69300	1·06476	2
3		2·54136	1·59419		2·54090	1·59493		2·54043	1·59567		2·53997	1·59641		2·53950	1·59715	3
4		3·38848	2·12559		3·38786	2·12658		3·38725	2·12756		3·38663	2·12855		3·38601	2·12953	4
5		4·23561	2·65699		4·23483	2·65822		4·23406	2·65945		4·23329	2·66068		4·23251	2·66192	5
6		5·08273	3·18839		5·08180	3·18987		5·08087	3·19134		5·07994	3·19282		5·07901	3·19430	6
7		5·92985	3·71979		5·92877	3·72151		5·92768	3·72323		5·92660	3·72496		5·92552	3·72668	7
8		6·77697	4·25118		6·77573	4·25316		6·77450	4·25513		6·77326	4·25710		6·77202	4·25907	8
9		7·62409	4·78258		7·62270	4·78480		7·62131	4·78702		7·61992	4·78923		7·61852	4·79145	9
10	54	8·47122	5·31398	53	8·46967	5·31645	52	8·46812	5·31891	51	8·46658	5·32137	50	8·46503	5·32384	10
1	16	0·84557	0·53386	17	0·84541	0·53410	18	0·84526	0·53435	19	0·84510	0·53459	20	0·84495	0·53484	1
2		1·69114	1·06772		1·69083	1·06821		1·69052	1·06870		1·69021	1·06919		1·68990	1·06968	2
3		2·53671	1·60158		2·53625	1·60231		2·53578	1·60305		2·53531	1·60379		2·53485	1·60453	3
4		3·38229	2·13544		3·38166	2·13642		3·38104	2·13740		3·38042	2·13839		3·37980	2·13937	4
5		4·22786	2·66930		4·22708	2·67053		4·22630	2·67176		4·22553	2·67299		4·22475	2·67422	5
6		5·07343	3·20316		5·07250	3·20463		5·07157	3·20611		5·07063	3·20758		5·06970	3·20906	6
7		5·91900	3·73702		5·91792	3·73874		5·91683	3·74046		5·91574	3·74218		5·91465	3·74390	7
8		6·76458	4·27088		6·76333	4·27285		6·76209	4·27481		6·76085	4·27678		6·75960	4·27875	8
9		7·61015	4·80474		7·60875	4·80695		7·60735	4·80917		7·60595	4·81138		7·60455	4·81359	9
10	44	8·45572	5·33860	43	8·45417	5·34106	42	8·45261	5·34352	41	8·45106	5·34598	40	8·44950	5·34844	10
1	26	0·84401	0·53631	27	0·84386	0·53656	28	0·84370	0·53680	29	0·84354	0·53705	30	0·84339	0·53730	1
2		1·68803	1·07263		1·68772	1·07312		1·68740	1·07361		1·68709	1·07410		1·68678	1·07460	2
3		2·53204	1·60895		2·53158	1·60969		2·53111	1·61042		2·53064	1·61116		2·53017	1·61190	3
4		3·37606	2·14527		3·37544	2·14625		3·37481	2·14723		3·37419	2·14821		3·37356	2·14920	4
5		4·22008	2·68159		4·21930	2·68281		4·21852	2·68404		4·21773	2·68527		4·21695	2·68650	5
6		5·06409	3·21790		5·06316	3·21938		5·06222	3·22085		5·06128	3·22232		5·06034	3·22380	6
7		5·90811	3·75422		5·90702	3·75594		5·90592	3·75766		5·90483	3·75938		5·90373	3·76110	7
8		6·75212	4·29054		6·75088	4·29250		6·74963	4·29447		6·74838	4·29643		6·74713	4·29840	8
9		7·59614	4·82686		7·59474	4·82907		7·59333	4·83128		7·59192	4·83348		7·59052	4·83570	9
10	34	8·44016	5·36318	33	8·43860	5·36563	32	8·43704	5·36809	31	8·43547	5·37054	30	8·43391	5·37300	10
1	36	0·84245	0·53877	37	0·84229	0·53901	38	0·84213	0·53926	39	0·84198	0·53950	40	0·84182	0·53975	1
2		1·68490	1·07754		1·68459	1·07803		1·68427	1·07852		1·68396	1·07901		1·68364	1·07950	2
3		2·52735	1·61631		2·52688	1·61704		2·52641	1·61778		2·52594	1·61851		2·52547	1·61925	3
4		3·36980	2·15508		3·36918	2·15606		3·36855	2·15704		3·36792	2·15802		3·36729	2·15900	4
5		4·21226	2·69385		4·21147	2·69507		4·21069	2·69630		4·20991	2·69752		4·20912	2·69875	5
6		5·05471	3·23262		5·05377	3·23409		5·05283	3·23556		5·05189	3·23703		5·05094	3·23850	6
7		5·89716	3·77139		5·89606	3·77311		5·89497	3·77482		5·89387	3·77654		5·89277	3·77825	7
8		6·73961	4·31016		6·73836	4·31212		6·73711	4·31408		6·73585	4·31604		6·73459	4·31800	8
9		7·58207	4·84893		7·58066	4·85114		7·57924	4·85334		7·57783	4·85555		7·57642	4·85775	9
10	24	8·42452	5·38770	23	8·42295	5·39015	22	8·42138	5·39260	21	8·41982	5·39505	20	8·41825	5·39750	10
1	46	0·84088	0·54121	47	0·84072	0·54146	48	0·84056	0·54170	49	0·84040	0·54195	50	0·84025	0·54219	1
2		1·68176	1·08243		1·68144	1·08292		1·68113	1·08341		1·68081	1·08390		1·68050	1·08439	2
3		2·52264	1·62365		2·52217	1·62439		2·52169	1·62512		2·52122	1·62585		2·52075	1·62659	3
4		3·36352	2·16487		3·36289	2·16585		3·36226	2·16683		3·36163	2·16781		3·36100	2·16878	4
5		4·20440	2·70609		4·20362	2·70731		4·20283	2·70854		4·20204	2·70976		4·20125	2·71098	5
6		5·04528	3·24731		5·04434	3·24878		5·04339	3·25024		5·04245	3·25171		5·04150	3·25318	6
7		5·88617	3·78853		5·88506	3·79024		5·88396	3·79195		5·88286	3·79366		5·88175	3·79537	7
8		6·72705	4·32975		6·72579	4·33170		6·72453	4·33366		6·72327	4·33562		6·72201	4·33757	8
9		7·56793	4·87097		7·56651	4·87317		7·56509	4·87537		7·56368	4·87757		7·56226	4·87977	9
10	14	8·40881	5·41219	13	8·40724	5·41463	12	8·40566	5·41708	11	8·40409	5·41952	10	8·40251	5·42197	10
1	56	0·83930	0·54366	57	0·83914	0·54390	58	0·83898	0·54415	59	0·83882	0·54439	60	0·83867	0·54463	1
2		1·67860	1·08732		1·67829	1·08781		1·67797	1·08830		1·67765	1·08879		1·67734	1·08927	2
3		2·51791	1·63098		2·51743	1·63172		2·51696	1·63245		2·51648	1·63318		2·51601	1·63391	3
4		3·35721	2·17465		3·35658	2·17562		3·35594	2·17660		3·35531	2·17758		3·35468	2·17855	4
5		4·19651	2·71831		4·19572	2·71953		4·19493	2·72075		4·19414	2·72197		4·19335	2·72319	5
6		5·03582	3·26197		5·03487	3·26344		5·03392	3·26490		5·03297	3·26637		5·03202	3·26783	6
7		5·87512	3·80563		5·87401	3·80734		5·87291	3·80905		5·87180	3·81076		5·87069	3·81247	7
8		6·71442	4·34930		6·71316	4·35125		6·71189	4·35320		6·71063	4·35516		6·70936	4·35711	8
9		7·55373	4·89296		7·55230	4·89516		7·55088	4·89735		7·54946	4·89955		7·54803	4·90175	9
10	04	8·39303	5·43662	03	8·39145	5·43907	02	8·38987	5·44151	01	8·38829	5·44395	00	8·38670	5·44639	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

57 DEG.

DEG. 33.

D.	M.	Lat.	Dep.	M	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·83851	0·54488	02	0·83835	0·54512	03	0·83819	0·54537	04	0·83803	0·54561	05	0·83787	0·54585	1
2		1·67702	1·08976		1·67670	1·09025		1·67639	1·09074		1·67607	1·09122		1·67575	1·09171	2
3		2·51553	1·63464		2·51506	1·63538		2·51458	1·63611		2·51410	1·63684		2·51363	1·63757	3
4		3·35404	2·17953		3·35341	2·18050		3·35278	2·18148		3·35214	2·18245		3·35151	2·18343	4
5		4·19256	2·72441		4·19176	2·72563		4·19097	2·72685		4·19018	2·72807		4·18938	2·72929	5
6		5·03107	3·26929		5·03012	3·27076		5·02917	3·27222		5·02821	3·27368		5·02726	3·27514	6
7		5·86958	3·81418		5·86847	3·81588		5·86736	3·81759		5·86625	3·81930		5·86514	3·82100	7
8		6·70809	4·35906		6·70682	4·36101		6·70556	4·36296		6·70429	4·36491		6·70302	4·36686	8
9		7·54660	4·90394		7·54518	4·90614		7·54375	4·90833		7·54232	4·91053		7·54089	4·91272	9
10	59	8·38512	5·44883	58	8·38353	5·45127	57	8·38195	5·45370	56	8·38036	5·45614	55	8·37877	5·45858	10
1	11	0·83692	0·54732	12	0·83676	0·54756	13	0·83660	0·54780	14	0·83644	0·54805	15	0·83628	0·54829	1
2		1·67384	1·09464		1·67352	1·09512		1·67321	1·09561		1·67289	1·09610		1·67257	1·09658	2
3		2·51077	1·64196		2·51029	1·64268		2·50981	1·64341		2·50933	1·64415		2·50885	1·64487	3
4		3·34769	2·18928		3·34705	2·19025		3·34642	2·19122		3·34578	2·19220		3·34514	2·19317	4
5		4·18461	2·73660		4·18382	2·73781		4·18302	2·73903		4·18222	2·74025		4·18143	2·74146	5
6		5·02154	3·28392		5·02058	3·28537		5·01963	3·28683		5·01867	3·28830		5·01771	3·28975	6
7		5·85846	3·83124		5·85735	3·83294		5·85623	3·83464		5·85511	3·83635		5·85400	3·83805	7
8		6·69538	4·37856		6·69411	4·38050		6·69284	4·38245		6·69156	4·38440		6·69028	4·38634	8
9		7·53231	4·92588		7·53087	4·92806		7·52944	4·93025		7·52801	4·93245		7·52657	4·93463	9
10	49	8·36923	5·47320	48	8·36764	5·47563	47	8·36605	5·47806	46	8·36445	5·48050	45	8·36286	5·48293	10
1	21	0·83532	0·54975	22	0·83516	0·54999	23	0·83500	0·55023	24	0·83484	0·55048	25	0·83468	0·55072	1
2		1·67065	1·09950		1·67033	1·09999		1·67001	1·10047		1·66969	1·10096		1·66937	1·10144	2
3		2·50598	1·64925		2·50550	1·64998		2·50502	1·65071		2·50454	1·65144		2·50406	1·65217	3
4		3·34131	2·19900		3·34067	2·19998		3·34003	2·20095		3·33939	2·20192		3·33875	2·20289	4
5		4·17664	2·74876		4·17584	2·74997		4·17504	2·75119		4·17423	2·75240		4·17343	2·75361	5
6		5·01196	3·29851		5·01100	3·29997		5·01004	3·30142		5·00908	3·30288		5·00812	3·30434	6
7		5·84729	3·84826		5·84617	3·84996		5·84505	3·85166		5·84393	3·85336		5·84281	3·85506	7
8		6·68262	4·39801		6·68134	4·39996		6·68006	4·40190		6·67878	4·40384		6·67750	4·40578	8
9		7·51795	4·94776		7·51651	4·94995		7·51507	4·95214		7·51363	4·95432		7·51218	4·95651	9
10	39	8·35328	5·49752	38	8·35168	5·49995	37	8·35008	5·50238	36	8·34848	5·50480	35	8·34687	5·50723	10
1	31	0·83372	0·55218	32	0·83356	0·55242	33	0·83340	0·55266	34	0·83324	0·55290	35	0·83308	0·55314	1
2		1·66745	1·10436		1·66712	1·10484		1·66680	1·10532		1·66648	1·10581		1·66616	1·10629	2
3		2·50117	1·65654		2·50069	1·65726		2·50021	1·65799		2·49972	1·65872		2·49924	1·65944	3
4		3·33490	2·20872		3·33425	2·20968		3·33361	2·21065		3·33297	2·21162		3·33232	2·21259	4
5		4·16862	2·76090		4·16782	2·76211		4·16701	2·76332		4·16621	2·76453		4·16541	2·76574	5
6		5·00235	3·31308		5·00138	3·31453		5·00042	3·31598		4·99945	3·31744		4·99849	3·31889	6
7		5·83607	3·86526		5·83495	3·86695		5·83382	3·86865		5·83270	3·87034		5·83157	3·87204	7
8		6·66980	4·41744		6·66851	4·41937		6·66723	4·42131		6·66594	4·42325		6·66465	4·42519	8
9		7·50352	4·96962		7·50208	4·97179		7·50063	4·97398		7·49918	4·97616		7·49773	4·97834	9
10	29	8·33725	5·52180	28	8·33564	5·52422	27	8·33403	5·52664	26	8·33243	5·52907	25	8·33082	5·53149	10
1	41	0·83211	0·55460	42	0·83195	0·55484	43	0·83179	0·55508	44	0·83163	0·55532	45	0·83147	0·55557	1
2		1·66423	1·10920		1·66390	1·10968		1·66358	1·11017		1·66326	1·11065		1·66294	1·11114	2
3		2·49634	1·66380		2·49586	1·66453		2·49537	1·66525		2·49489	1·66598		2·49441	1·66671	3
4		3·32846	2·21840		3·32781	2·21937		3·32717	2·22034		3·32652	2·22131		3·32588	2·22228	4
5		4·16057	2·77301		4·15977	2·77422		4·15896	2·77543		4·15815	2·77664		4·15735	2·77785	5
6		4·99269	3·32761		4·99172	3·32906		4·99075	3·33051		4·98978	3·33196		4·98882	3·33342	6
7		5·82480	3·88221		5·82367	3·88391		5·82254	3·88560		5·82141	3·88729		5·82029	3·88899	7
8		6·65692	4·43681		6·65563	4·43875		6·65434	4·44069		6·65304	4·44262		6·65176	4·44456	8
9		7·48903	4·99142		7·48758	4·99359		7·48613	4·99577		7·48468	4·99795		7·48323	5·00013	9
10	19	8·32115	5·54602	18	8·31954	5·54844	17	8·31792	5·55086	16	8·31631	5·55328	15	8·31470	5·55570	10
1	51	0·83049	0·55702	52	0·83033	0·55726	53	0·83017	0·55750	54	0·83001	0·55774	55	0·82985	0·55798	1
2		1·66099	1·11404		1·66067	1·11452		1·66034	1·11500		1·66002	1·11549		1·65970	1·11597	2
3		2·49149	1·67106		2·49100	1·67178		2·49052	1·67251		2·49003	1·67323		2·48955	1·67395	3
4		3·32199	2·22808		3·32134	2·22904		3·32069	2·23001		3·32004	2·23098		3·31940	2·23194	4
5		4·15249	2·78510		4·15168	2·78631		4·15087	2·78751		4·15006	2·78872		4·14925	2·78993	5
6		4·98299	3·34212		4·98201	3·34357		4·98104	3·34502		4·98007	3·34647		4·97910	3·34791	6
7		5·81349	3·89914		5·81235	3·90083		5·81122	3·90252		5·81008	3·90421		5·80895	3·90590	7
8		6·64398	4·45616		6·64269	4·45809		6·64139	4·46002		6·64009	4·46196		6·63880	4·46389	8
9		7·47448	5·01318		7·47302	5·01535		7·47157	5·01753		7·47011	5·01970		7·46865	5·02187	9
10	09	8·30498	5·57020	08	8·30336	5·57262	07	8·30174	5·57503	06	8·30012	5·57745	05	8·29850	5·57986	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 56.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·83771	0·54610	07	0·83756	0·54634	08	0·83740	0·54658	09	0·83724	0·54683	10	0·83708	0·54707	1
2		1·67543	1·09220		1·67512	1·09269		1·67480	1·09317		1·67448	1·09366		1·67416	1·09415	2
3		2·51315	1·63830		2·51268	1·63903		2·51220	1·63976		2·51172	1·64049		2·51124	1·64122	3
4		3·35087	2·18440		3·35024	2·18538		3·34960	2·18635		3·34896	2·18733		3·34833	2·18830	4
5		4·18859	2·73051		4·18780	2·73172		4·18700	2·73294		4·18620	2·73416		4·18541	2·73538	5
6		5·02631	3·27661		5·02536	3·27807		5·02440	3·27953		5·02345	3·28099		5·02249	3·28245	6
7		5·86403	3·82271		5·86292	3·82441		5·86180	3·82612		5·86069	3·82782		5·85957	3·82953	7
8		6·70174	4·36881		6·70048	4·37076		6·69920	4·37271		6·69793	4·37466		6·69666	4·37661	8
9		7·53946	4·91491		7·53804	4·91711		7·53660	4·91930		7·53517	4·92149		7·53374	4·92368	9
10	54	8·37718	5·46102	53	8·37560	5·46345	52	8·37401	5·46589	51	8·37241	5·46832	50	8·37082	5·47076	10
1	16	0·83612	0·54853	17	0·83596	0·54878	18	0·83580	0·54902	19	0·83564	0·54926	20	0·83548	0·54951	1
2		1·67225	1·09707		1·67193	1·09756		1·67161	1·09804		1·67129	1·09853		1·67097	1·09901	2
3		2·50837	1·64560		2·50790	1·64634		2·50742	1·64706		2·50694	1·64779		2·50646	1·64852	3
4		3·34450	2·19414		3·34386	2·19512		3·34322	2·19609		3·34259	2·19706		3·34195	2·19803	4
5		4·18063	2·74268		4·17983	2·74390		4·17903	2·74511		4·17823	2·74633		4·17743	2·74754	5
6		5·01675	3·29121		5·01580	3·29268		5·01484	3·29413		5·01388	3·29559		5·01292	3·29705	6
7		5·85288	3·83975		5·85176	3·84146		5·85065	3·84315		5·84953	3·84486		5·84841	3·84656	7
8		6·68901	4·38829		6·68773	4·39024		6·68645	4·39218		6·68518	4·39412		6·68390	4·39607	8
9		7·52513	4·93682		7·52370	4·93902		7·52226	4·94120		7·52082	4·94339		7·51939	4·94558	9
10	44	8·36126	5·48536	43	8·35967	5·48780	42	8·35807	5·49022	41	8·35647	5·49266	40	8·35487	5·49509	10
1	26	0·83452	0·55096	27	0·83436	0·55120	28	0·83420	0·55145	29	0·83404	0·55169	30	0·83388	0·55193	1
2		1·66905	1·10193		1·66873	1·10241		1·66841	1·10290		1·66809	1·10338		1·66777	1·10387	2
3		2·50358	1·65289		2·50310	1·65362		2·50262	1·65435		2·50213	1·65508		2·50165	1·65581	3
4		3·33811	2·20386		3·33746	2·20483		3·33682	2·20580		3·33618	2·20677		3·33554	2·20774	4
5		4·17263	2·75483		4·17183	2·75604		4·17103	2·75725		4·17023	2·75847		4·16942	2·75968	5
6		5·00716	3·30579		5·00620	3·30725		5·00524	3·30871		5·00427	3·31016		5·00331	3·31162	6
7		5·84169	3·85676		5·84057	3·85846		5·83944	3·86016		5·83832	3·86186		5·83720	3·86355	7
8		6·67622	4·40773		6·67493	4·40967		6·67365	4·41161		6·67237	4·41355		6·67108	4·41549	8
9		7·51074	4·95869		7·50930	4·96088		7·50786	4·96306		7·50641	4·96524		7·50497	4·96743	9
10	34	8·34527	5·50966	33	8·34367	5·51209	32	8·34206	5·51451	31	8·34046	5·51694	30	8·33885	5·51937	10
1	36	0·83292	0·55339	37	0·83276	0·55363	38	0·83259	0·55387	39	0·83243	0·55411	40	0·83227	0·55436	1
2		1·66584	1·10678		1·66552	1·10726		1·66519	1·10775		1·66487	1·10823		1·66455	1·10872	2
3		2·49876	1·66017		2·49828	1·66090		2·49779	1·66162		2·49731	1·66235		2·49683	1·66308	3
4		3·33168	2·21356		3·33104	2·21453		3·33039	2·21550		3·32975	2·21647		3·32910	2·21744	4
5		4·16460	2·76695		4·16380	2·76816		4·16299	2·76938		4·16219	2·77059		4·16138	2·77180	5
6		4·99752	3·32034		4·99656	3·32180		4·99559	3·32325		4·99462	3·32470		4·99366	3·32616	6
7		5·83044	3·87374		5·82932	3·87543		5·82819	3·87713		5·82706	3·87882		5·82593	3·88052	7
8		6·66336	4·42713		6·66208	4·42907		6·66079	4·43100		6·65950	4·43294		6·65821	4·43488	8
9		7·49629	4·98052		7·49484	4·98270		7·49339	4·98488		7·49194	4·98706		7·49049	4·98924	9
10	24	8·32921	5·53391	23	8·32760	5·53633	22	8·32599	5·53876	21	8·32438	5·54118	20	8·32276	5·54360	10
1	46	0·83130	0·55581	47	0·83114	0·55605	48	0·83098	0·55629	49	0·83082	0·55653	50	0·83066	0·55677	1
2		1·66261	1·11162		1·66228	1·11210		1·66196	1·11259		1·66164	1·11307		1·66132	1·11355	2
3		2·49392	1·66743		2·49343	1·66816		2·49295	1·66888		2·49246	1·66961		2·49198	1·67033	3
4		3·32523	2·22324		3·32458	2·22421		3·32393	2·22518		3·32329	2·22614		3·32264	2·22711	4
5		4·15654	2·77906		4·15573	2·78027		4·15492	2·78147		4·15411	2·78268		4·15330	2·78389	5
6		4·98784	3·33487		4·98687	3·33632		4·98590	3·33777		4·98493	3·33922		4·98396	3·34067	6
7		5·81915	3·89068		5·81802	3·89237		5·81689	3·89406		5·81575	3·89576		5·81462	3·89745	7
8		6·65046	4·44649		6·64917	4·44843		6·64787	4·45036		6·64658	4·45229		6·64528	4·45423	8
9		7·48177	5·00230		7·48031	5·00448		7·47886	5·00666		7·47740	5·00883		7·47594	5·01101	9
10	14	8·31308	5·55812	13	8·31146	5·56054	12	8·30984	5·56295	11	8·30822	5·56537	10	8·30660	5·56779	10
1	56	0·82968	0·55822	57	0·82952	0·55846	58	0·82936	0·55871	59	0·82920	0·55895	60	0·82903	0·55919	1
2		1·65937	1·11645		1·65905	1·11693		1·65872	1·11742		1·65840	1·11790		1·65807	1·11838	2
3		2·48906	1·67468		2·48857	1·67540		2·48808	1·67613		2·48760	1·67685		2·48711	1·67757	3
4		3·31875	2·23291		3·31810	2·23387		3·31745	2·23484		3·31680	2·23580		3·31615	2·23677	4
5		4·14843	2·79114		4·14762	2·79234		4·14681	2·79355		4·14600	2·79475		4·14518	2·79596	5
6		4·97812	3·34936		4·97715	3·35081		4·97617	3·35226		4·97520	3·35371		4·97422	3·35515	6
7		5·80781	3·90759		5·80667	3·90928		5·80553	3·91097		5·80440	3·91266		5·80326	3·91435	7
8		6·63750	4·46582		6·63620	4·46775		6·63490	4·46968		6·63360	4·47161		6·63230	4·47354	8
9		7·46718	5·02405		7·46572	5·02622		7·46426	5·02839		7·46280	5·03056		7·46133	5·03273	9
10	04	8·29687	5·58228	03	8·29525	5·58469	02	8·29362	5·58710	01	8·29200	5·58951	00	8.29037	5·59193	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

56 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·82887	0·55943	02	0·82871	0·55967	03	0·82854	0·55991	04	0·82838	0·56015	05	0·82822	0·56039	1
2		1·65774	1·11886		1·65742	1·11935		1·65709	1·11983		1·65677	1·12031		1·65644	1·12079	2
3		2·48662	1·67830		2·48613	1·67902		2·48564	1·67974		2·48515	1·68047		2·48467	1·68119	3
4		3·31549	2·23773		3·31484	2·23870		3·31419	2·23966		3·31354	2·24062		3·31289	2·24159	4
5		4·14437	2·79717		4·14356	2·79837		4·14274	2·79958		4·14193	2·80078		4·14111	2·80199	5
6		4·97324	3·35660		4·97227	3·35805		4·97129	3·35949		4·97031	3·36094		4·96934	3·36238	6
7		5·80212	3·91603		5·80098	3·91772		5·79984	3·91941		5·79870	3·92110		5·79756	3·92278	7
8		6·63099	4·47547		6·62969	4·47740		6·62839	4·47932		6·62709	4·48125		6·62578	4·48318	8
9		7·45987	5·03490		7·45840	5·03707		7·45694	5·03924		7·45547	5·04141		7·45401	5·04358	9
10	59	8·28875	5·59434	58	8·28712	5·59675	57	8·28549	5·59916	56	8·28386	5·60157	55	8·28223	5·60398	10
1	11	0·82724	0·56184	12	0·82708	0·56208	13	0·82691	0·56232	14	0·82675	0·56256	15	0·82659	0·56280	1
2		1·65448	1·12368		1·65416	1·12416		1·65383	1·12464		1·65350	1·12512		1·65318	1·12560	2
3		2·48173	1·68552		2·48124	1·68625		2·48075	1·68697		2·48026	1·68769		2·47977	1·68841	3
4		3·30897	2·24737		3·30832	2·24833		3·30766	2·24929		3·30701	2·25025		3·30636	2·25121	4
5		4·13622	2·80921		4·13540	2·81041		4·13458	2·81162		4·13376	2·81282		4·13295	2·81402	5
6		4·96346	3·37105		4·96248	3·37250		4·96150	3·37394		4·96052	3·37538		4·95954	3·37682	6
7		5·79070	3·93289		5·78956	3·93458		5·78841	3·93626		5·78727	3·93795		5·78613	3·93963	7
8		6·61795	4·49474		6·61664	4·49666		6·61533	4·49859		6·61402	4·50051		6·61272	4·50243	8
9		7·44519	5·05658		7·44372	5·05875		7·44225	5·06091		7·44078	5·06308		7·43931	5·06524	9
10	49	8·27244	5·61842	48	8·27080	5·62083	47	8·26917	5·62324	46	8·26753	5·62564	45	8·26590	5·62805	10
1	21	0·82560	0·56424	22	0·82544	0·56448	23	0·82527	0·56472	24	0·82511	0·56496	25	0·82494	0·56520	1
2		1·65121	1·12849		1·65088	1·12897		1·65055	1·12945		1·65022	1·12993		1·64989	1·13041	2
3		2·47681	1·69274		2·47632	1·69346		2·47583	1·69418		2·47534	1·69490		2·47484	1·69562	3
4		3·30242	2·25698		3·30176	2·25794		3·30111	2·25890		3·30045	2·25986		3·29979	2·26082	4
5		4·12803	2·82123		4·12721	2·82243		4·12638	2·82363		4·12556	2·82483		4·12474	2·82603	5
6		4·95363	3·38548		4·95265	3·38692		4·95166	3·38836		4·95068	3·38980		4·94969	3·39124	6
7		5·77924	3·94972		5·77809	3·95140		5·77694	3·95308		5·77579	3·95476		5·77464	3·95644	7
8		6·60484	4·51397		6·60353	4·51589		6·60222	4·51781		6·60090	4·51973		6·59959	4·52165	8
9		7·43045	5·07822		7·42897	5·08038		7·42750	5·08254		7·42602	5·08470		7·42454	5·08686	9
10	39	8·25606	5·64246	38	8·25442	5·64487	37	8·25277	5·64727	36	8·25113	5·64967	35	8·24949	5·65207	10
1	31	0·82396	0·56664	32	0·82379	0·56688	33	0·82363	0·56712	34	0·82346	0·56736	35	0·82330	0·56760	1
2		1·64792	1·13329		1·64759	1·13377		1·64726	1·13425		1·64693	1·13472		1·64660	1·13520	2
3		2·47188	1·69993		2·47138	1·70065		2·47089	1·70137		2·47039	1·70209		2·46990	1·70281	3
4		3·29584	2·26658		3·29518	2·26754		3·29452	2·26850		3·29386	2·26945		3·29320	2·27041	4
5		4·11980	2·83322		4·11898	2·83442		4·11815	2·83562		4·11733	2·83682		4·11650	2·83802	5
6		4·94376	3·39987		4·94277	3·40131		4·94178	3·40275		4·94079	3·40418		4·93980	3·40562	6
7		5·76772	3·96652		5·76657	3·96819		5·76542	3·96987		5·76426	3·97155		5·76311	3·97323	7
8		6·59169	4·53316		6·59037	4·53508		6·58905	4·53700		6·58773	4·53891		6·58641	4·54083	8
9		7·41565	5·09981		7·41416	5·10197		7·41268	5·10412		7·41119	5·10628		7·40971	5·10843	9
10	29	8·23961	5·66640	28	8·23796	5·66885	27	8·23631	5·67125	26	8·23466	5·67364	25	8·23301	5·67604	10
1	41	0·82231	0·56904	42	0·82214	0·56927	43	0·82197	0·56951	44	0·82181	0·56975	45	0·82164	0·56999	1
2		1·64462	1·13808		1·64428	1·13855		1·64395	1·13903		1·64362	1·13951		1·64329	1·13999	2
3		2·46693	1·70712		2·46643	1·70783		2·46593	1·70855		2·46543	1·70927		2·46494	1·70999	3
4		3·28924	2·27616		3·28857	2·27711		3·28791	2·27807		3·28725	2·27903		3·28658	2·27998	4
5		4·11155	2·84520		4·11072	2·84639		4·10989	2·84759		4·10906	2·84878		4·10823	2·84998	5
6		4·93386	3·41424		4·93286	3·41567		4·93187	3·41711		4·93087	3·41854		4·92988	3·41998	6
7		5·75617	3·98328		5·75500	3·98495		5·75384	3·98663		5·75268	3·98830		5·75152	3·98997	7
8		6·57848	4·55232		6·57715	4·55423		6·57582	4·55614		6·57450	4·55806		6·57317	4·55997	8
9		7·40079	5·12136		7·39929	5·12351		7·39780	5·12566		7·39631	5·12781		7·39482	5·12997	9
10	19	8·22310	5·69040	18	8·22144	5·69279	17	8·21978	5·69518	16	8·21812	5·69757	15	8·21647	5·69996	10
1	51	0·82065	0·57143	52	0·82048	0·57166	53	0·82031	0·57190	54	0·82015	0·57214	55	0·81998	0·57238	1
2		1·64130	1·14286		1·64096	1·14333		1·64063	1·14381		1·64030	1·14429		1·63997	1·14476	2
3		2·46195	1·71429		2·46145	1·71500		2·46095	1·71572		2·46045	1·71643		2·45995	1·71715	3
4		3·28260	2·28572		3·28193	2·28667		3·28127	2·28762		3·28060	2·28858		3·27994	2·28953	4
5		4·10325	2·85715		4·10242	2·85834		4·10159	2·85953		4·10076	2·86073		4·09992	2·86192	5
6		4·92390	3·42858		4·92290	3·43001		4·92190	3·43144		4·92091	3·43287		4·91991	3·43430	6
7		5·74455	4·00001		5·74339	4·00168		5·74222	4·00335		5·74106	4·00502		5·73989	4·00669	7
8		6·56520	4·57144		6·56387	4·57334		6·56254	4·57525		6·56121	4·57716		6·55988	4·57907	8
9		7·38585	5·14287		7·38436	5·14501		7·38286	5·14716		7·38136	5·14931		7·37986	5·15145	9
10	09	8·20651	5·71430	08	8·20484	5·71668	07	8·20318	5·71907	06	8·20152	5·72146	05	8·19985	5·72384	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·82806	0·56063	07	0·82789	0·56088	08	0·82773	0·56112	09	0·82757	0·56136	10	0·82740	0·56160	1
2		1·65612	1·12127		1·65579	1·12176		1·65546	1·12224		1·65514	1·12272		1·65481	1·12320	2
3		2·48418	1·68191		2·48369	1·68264		2·48320	1·68336		2·48271	1·68408		2·48222	1·68480	3
4		3·31224	2·24255		3·31158	2·24352		3·31093	2·24448		3·31028	2·24544		3·30962	2·24640	4
5		4·14030	2·80319		4·13948	2·80440		4·13867	2·80560		4·13785	2·80680		4·13703	2·80801	5
6		4·96836	3·36383		4·96738	3·36528		4·96640	3·36672		4·96542	3·36816		4·96444	3·36961	6
7		5·79642	3·92447		5·79528	3·92616		5·79413	3·92784		5·79299	3·92952		5·79185	3·93121	7
8		6·62448	4·48511		6·62317	4·48704		6·62187	4·48896		6·62056	4·49089		6·61925	4·49281	8
9		7·45254	5·04575		7·45107	5·04792		7·44960	5·05008		7·44813	5·05225		7·44666	5·05441	9
10	54	8·28060	5·60639	53	8·27897	5·60880	52	8·27734	5·61120	51	8·27570	5·61361	50	8·27407	5·61602	10
1	16	0·82642	0·56304	17	0·82626	0·56328	18	0·82609	0·56352	19	0·82593	0·56376	20	0·82577	0·56400	1
2		1·65285	1·12609		1·65252	1·12657		1·65219	1·12705		1·65186	1·12753		1·65154	1·12801	2
3		2·47927	1·68913		2·47878	1·68985		2·47829	1·69057		2·47780	1·69129		2·47731	1·69201	3
4		3·30570	2·25218		3·30504	2·25314		3·30439	2·25410		3·30373	2·25506		3·30308	2·25602	4
5		4·13213	2·81522		4·13131	2·81642		4·13049	2·81763		4·12967	2·81883		4·12885	2·82003	5
6		4·95855	3·37827		4·95757	3·37971		4·95658	3·38115		4·95560	3·38259		4.95462	3·38403	6
7		5·78498	3·94131		5·78383	3·94299		5·78268	3·94468		5·78154	3·94636		5·78039	3·94804	7
8		6·61140	4·50436		6·61009	4·50628		6·60878	4·50820		6·60747	4·51013		6·60616	4·51205	8
9		7·43783	5·06740		7·43635	5·06957		7·43488	5·07173		7·43340	5·07389		7·43193	5·07605	9
10	44	8·26426	5·63045	43	8·26262	5·63285	42	8·26098	5·63526	41	8·25934	5·63766	40	8·25770	5·64006	10
1	26	0·82478	0·56544	27	0·82462	0·56568	28	0·82445	0·56592	29	0·82429	0·56616	30	0·82412	0·56640	1
2		1·64956	1·13089		1·64924	1·13137		1·64891	1·13185		1·64858	1·13233		1·64825	1·13281	2
3		2·47435	1·69634		2·47386	1·69706		2·47336	1·69778		2·47287	1·69849		2·47237	1·69921	3
4		3·29913	2·26178		3·29848	2·26274		3·29782	2·26370		3·29716	2·26466		3·29650	2·26562	4
5		4·12392	2·82723		4·12310	2·82843		4·12227	2·82963		4·12145	2·83083		4·12063	2·83203	5
6		4·94870	3·39268		4·94772	3·39412		4·94673	3·39556		4·94574	3·39699		4·94475	3·39843	6
7		5·77349	3·95812		5·77234	3·95980		5·77118	3·96148		5·77003	3·96316		5·76888	3·96484	7
8		6·59827	4·52357		6·59696	4·52549		6·59564	4·52741		6·59432	4·52933		6·59300	4·53124	8
9		7·42306	5·08902		7·42158	5·09118		7·42010	5·09334		7·41861	5·09549		7·41713	5·09765	9
10	34	8·24784	5·65447	33	8·24620	5·65686	32	8·24455	5·65926	31	8·24291	5·66166	30	8·24126	5·66406	10
1	36	0·82313	0·56784	37	0·82297	0·56808	38	0·82280	0·56832	39	0·82264	0·56856	40	0·82247	0·56880	1
2		1·64627	1·13568		1·64594	1·13616		1·64561	1·13664		1·64528	1·13712		1·64495	1·13760	2
3		2·46940	1·70353		2·46891	1·70424		2·46841	1·70496		2·46792	1·70568		2·46742	1·70640	3
4		3·29254	2·27137		3·29188	2·27233		3·29122	2·27329		3·29056	2·27424		3·28990	2·27520	4
5		4·11568	2·83921		4·11485	2·84041		4·11403	2·84161		4·11320	2·84281		4·11237	2·84400	5
6		4·93881	3·40706		4·93782	3·40849		4·93683	3·40993		4·93584	3·41137		4·93485	3·41280	6
7		5·76195	3·97490		5·76079	3·97658		5·75964	3·97825		5·75848	3·97993		5·75732	3·98160	7
8		6·58509	4·54274		6·58376	4·54466		6·58244	4·54658		6·58112	4·54849		6·57980	4·55040	8
9		7·40822	5·11059		7·40674	5·11274		7·40525	5·11490		7·40376	5·11705		7·40227	5·11920	9
10	24	8·23136	5·67843	23	8·22971	5·68083	22	8·22806	5·68322	21	8·22640	5·68562	20	8·22475	5·68801	10
1	46	0·82148	0·57023	47	0·82131	0·57047	48	0·82114	0·57071	49	0·82098	0·57095	50	0·82081	0·57119	1
2		1·64296	1·14047		1·64263	1·14094		1·64229	1·14142		1·64196	1·14190		1·64163	1·14238	2
3		2·46444	1·71070		2·46394	1·71142		2·46344	1·71214		2·46294	1·71285		2·46245	1·71357	3
4		3·28592	2·28094		3·28526	2·28189		3·28459	2·28285		3·28393	2·28380		3·28326	2·28476	4
5		4·10740	2·85117		4·10657	2·85237		4·10574	2·85356		4·10491	2·85476		4·10408	2·85595	5
6		4·92888	3·42141		4·92789	3·42284		4·92689	3·42428		4·92589	3·42571		4·92490	3·42714	6
7		5·75036	3·99164		5·74920	3·99332		5·74804	3·99499		5·74688	3·99666		5·74571	3·99833	7
8		6·57184	4·56188		6·57052	4·56379		6·56919	4·56570		6·56786	4·56761		6·56653	4·56952	8
9		7·39332	5·13212		7·39183	5·13427		7·39034	5·13642		7·38884	5·13857		7·38735	5·14072	9
10	14	8·21481	5·70235	13	8·21315	5·70474	12	8·21149	5·70713	11	8·20983	5·70952	10	8·20817	5·71191	10
1	56	0·81981	0·57262	57	0·81965	0·57286	58	0·81948	0·57310	59	0·81931	0·57333	60	0·81915	0·57357	1
2		1·63963	1·14524		1·63930	1·14572		1·63897	1·14620		1·63863	1·14667		1·63830	1·14715	2
3		2·45945	1·71786		2·45895	1·71858		2·45845	1·71930		2·45795	1·72001		2·45745	1·72072	3
4		3·27927	2·29049		3·27860	2·29144		3·27794	2·29240		3·27727	2·29335		3·27660	2·29430	4
5		4·09909	2·86311		4·09826	2·86430		4·09742	2·86550		4·09659	2·86669		4·09576	2·86788	5
6		4·91891	3·43573		4·91791	3·43716		4·91691	3·43860		4·91591	3·44002		4·91491	3·44145	6
7		5·73873	4·00836		5·73756	4·01002		5·73639	4·01170		5·73523	4·01336		5·73406	4·01503	7
8		6·55855	4·58098		6·55721	4·58289		6·55588	4·58480		6·55455	4·58670		6·55321	4·58861	8
9		7·37837	5·15360		7·37687	5·15575		7·37537	5·15790		7·37387	5·16004		7·37236	5·16218	9
10	04	8·19819	5·72623	03	8·19652	5·72861	02	8·19485	5·73100	01	8·19319	5·73338	00	8·19152	5·73576	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

8
6

55 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	1	[illegible]	[illegible]	2	[illegible]	[illegible]	3	[illegible]	[illegible]	4	[illegible]	[illegible]	5	0·81831	0·57476	1
2		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		1·63663	1·14953	2
3		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		2·45495	1·72430	3
4		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		3·27326	2·29906	4
5		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·09158	2·87383	5
6		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·90990	3·44860	6
7		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		5·72821	4·02337	7
8		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		6·54653	4·59813	8
9		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		7·36485	5·17290	9
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	55	8·18317	5·74767	10
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15	0·81664	0·57714	1
2		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		1·63328	1·15429	2
3		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		2·44992	1·73143	3
4		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		3·26656	2·30858	4
5		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·08320	2·88572	5
6		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·89984	3·46287	6
7		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		5·71649	4·04001	7
8		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		6·53313	4·61716	8
9		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		7·34977	5·19430	9
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	45	8·16641	5·77145	10
1	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	25	0·81495	0·57951	1
2		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		1·62991	1·15903	2
3		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		2·44487	1·73855	3
4		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		3·25983	2·31807	4
5		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·07479	2·89759	5
6		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·88975	3·47710	6
7		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		5·70471	4·05662	7
8		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		6·51967	4·63614	8
9		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		7·33463	5·21566	9
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	35	8·14959	5·79518	10
1	31	[illegible]	[illegible]	32	[illegible]	[illegible]	33	[illegible]	[illegible]	34	[illegible]	[illegible]	35	0·81327	0·58188	1
2		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		1·62654	1·16377	2
3		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		2·43981	1·74565	3
4		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		3·25308	2·32754	4
5		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·06635	2·90943	5
6		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·87962	3·49131	6
7		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		5·69289	4·07320	7
8		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		6·50751	[illegible]		6·50616	4·65509	8
9		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		7·31943	5·23697	9
10	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	25	8·13270	5·81886	10
1	41	[illegible]	[illegible]	42	[illegible]	[illegible]	43	[illegible]	[illegible]	44	0·81174	0·58401	45	0·81157	0·58425	1
2		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		1·62348	[illegible]		1·62314	1·16850	2
3		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		2·43472	1·75275	3
4		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		3·24629	2·33700	4
5		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·05787	2·92125	5
6		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·87046	[illegible]		4·86944	3·50550	6
7		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		5·68101	4·08975	7
8		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	4·67210		6·49259	4·67400	8
9		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		7·30569	5·25612		7·30416	5·25825	9
10	19	[illegible]	[illegible]	18	[illegible]	[illegible]	17	8·11913	[illegible]	16	8·11744	5·84013	15	8·11574	5·84250	10
1	51	[illegible]	[illegible]	52	[illegible]	[illegible]	53	0·81021	[illegible]	54	0·81004	0·58637	55	0·80987	0·58660	1
2		1·62110	[illegible]		[illegible]	[illegible]		1·62042	[illegible]		[illegible]	1·17274		1·61974	1·17321	2
3		[illegible]	[illegible]		2·43114	[illegible]		[illegible]	1·75841		2·43012	1·75911		2·42961	1·75982	3
4		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		3·24016	2·34548		3·23948	2·34643	4
5		[illegible]	[illegible]		4·05191	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		4·04935	2·93304	5
6		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	3·51823		4·85922	3·51964	6
7		[illegible]	[illegible]		[illegible]	[illegible]		5·67148	[illegible]		5·67029	4·10460		5·66909	4·10625	7
8		[illegible]	[illegible]		[illegible]	[illegible]		6·48169	[illegible]		[illegible]	4·69097		6·47896	4·69286	8
9		[illegible]	[illegible]		[illegible]	[illegible]		7·29190	[illegible]		[illegible]	5·27735		7·28883	5·27947	9
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	07	8·10212	5·86136	06	8·10041	5·86372	05	8·09871	5·86608	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·81815	0·57500	07	0·81798	0·57524	08	0·81781	0 57548	09	0·81764	0·57571	10	0·81748	0·57595	1
2		1·63630	1·15001		1·63596	1·15048		1·63563	1·15096		1·63529	1·15143		1·63496	1·15191	2
3		2·45445	1·72501		2·45394	1 72572		2·45344	1·72644		2·45294	1·72715		2·45244	1·72787	3
4		3·27260	2 30002		3·27192	2·30097		3·27126	2·30192		3·27059	2·30287		3·26992	2·30382	4
5		4·09075	2·87502		4·08991	2·87621		4·08907	2·87740		4·08823	2·87859		4·08740	2·87978	5
6		4·90890	3·45003		4·90789	3·45145		4·90689	3·45288		4·90588	3·45431		4·90488	3 45574	6
7		5·72705	4·02503		5·72587	4·02670		5·72470	4·02836		5·72353	4·03003		5·72236	4·03169	7
8		6·54520	4·60004		6·54385	4·60194		6·54252	4·60384		6·54118	4·60575		6·53984	4·60765	8
9		7·36335	5·17504		7·36184	5·17718		7·36033	5·17932		7·35882	5·18147		7·35732	5·18361	9
10	54	8·18150	5·75005	53	8·17982	5·75243	52	8·17815	5·75481	51	8·17647	5·75719	50	8·17480	5·75956	10
1	16	0·81647	0·57738	17	0·81630	0·57762	18	0·81613	0·57785	19	0·81596	0·57809	20	0·81580	0·57833	1
2		1·63294	1·15476		1·63261	1·15524		1·63227	1·15571		1·63193	1·15619		1·63160	1·15666	2
3		2·44942	1·73214		2·44891	1·73286		2·44841	1·73357		2·44790	1·73428		2·44740	1·73499	3
4		3·26589	2·30953		3·26522	2·31048		3·26455	2·31143		3·26387	2·31238		3·26320	2·31332	4
5		4·08236	2·88691		4·08152	2·88810		4·08068	2·88928		4·07984	2·89047		4·07900	2·89166	5
6		4·89884	3·46429		4·89783	3·46572		4·89682	3·46714		4·89581	3·46857		4·89480	3·46999	6
7		5·71531	4·04167		5·71413	4·04334		5·71296	4·04500		5·71178	4·04666		5·71060	4·04832	7
8		6·53178	4·61906		6·53044	4·62096		6·52910	4·62286		6·52775	4·62476		6·52641	4·62665	8
9		7·34826	5·19644		7·34675	5·19858		7·34523	5·20071		7·34372	5·20285		7·34221	5·20499	9
10	44	8·16473	5·77382	43	8·16305	5·77620	42	8·16137	5·77857	41	8·15969	5·78095	40	8·15801	5·78332	10
1	26	0·81479	0·57975	27	0·81462	0·57999	28	0·81445	0·58022	29	0·81428	0·58046	30	0·81411	0·58070	1
2		1·62958	1·15951		1·62924	1·15998		1·62890	1·16045		1·62856	1·16093		1·62823	1·16140	2
3		2·44437	1·73926		2·44386	1·73997		2·44335	1·74068		2·44285	1·74139		2·44234	1·74210	3
4		3·25916	2·31902		3·25848	2·31996		3·25781	2 32091		3·25713	2·32186		3·25646	2·32281	4
5		4·07395	2·89877		4·07311	2·89996		4·07226	2·90114		4·07142	2·90233		4·07057	2·90351	5
6		4·88874	3·47853		4·88773	3·47995		4·88671	3·48137		4·88570	3·48279		4·88469	3·48421	6
7		5·70353	4·05828		5·70235	4·05994		5·70117	4·06160		5·69999	4·06326		5·69880	4·06492	7
8		6·51832	4·63804		6 51697	4·63993		6·51562	4·64183		6·51427	4·64372		6·51292	4 64562	8
9		7·33311	5·21779		7·33159	5·21993		7·33007	5·22206		7·32855	5·22419		7·32703	5·22632	9
10	34	8·14790	5·79755	33	8·14622	5·79992	32	8·14453	5·80229	31	8·14284	5·80466	30	8·14115	5·80703	10
1	36	0·81310	0·58212	37	0·81293	0·58236	38	0·81276	0·58259	39	0·81259	0·58283	40	0·81242	0·58306	1
2		1·62620	1·16424		1·62586	1·16472		1·62552	1·16519		1·62518	1·16566		1·62484	1·16613	2
3		2·43930	1·74636		2·43879	1·74708		2·43828	1·74778		2·43777	1·74849		2·43726	1·74920	3
4		3·25240	2 32849		3·25172	2·32944		3·25104	2.33038		3·25037	2·33132		3·24969	2 33227	4
5		4·06550	2·91061		4·06465	2·91180		4·06381	2·91298		4·06296	2·91416		4·06211	2·91534	5
6		4·87860	3·49273		4·87758	3·49416		4·87657	3·49557		4·87555	3·49699		4·87453	3·49841	6
7		5·69170	4·07486		5·69051	4·07652		5·68933	4·07817		5·68814	4·07982		5·68696	4·08148	7
8		6·50480	4·65698		6·50345	4·65888		6·50209	4·66076		6·50074	4·66265		6·49938	4·66454	8
9		7·31790	5·23910		7·31638	5·24124		7·31485	5·24336		7·31333	5·24549		7·31180	5·24761	9
10	24	8·13100	5·82123	23	8·12931	5·82360	22	8·12762	5·82596	21	8·12592	5·82832	20	8·12423	5·83068	10
1	46	0·81140	0·58448	47	0·81123	0·58472	48	0·81106	0·58495	49	0·81089	0·58519	50	0·81072	0·58542	1
2		1·62280	1·16897		1·62246	1·16944		1·62212	1·16991		1·62178	1·17038		1·62144	1·17085	2
3		2·43421	1·75345		2·43370	1·75416		2·43319	1·75487		2·43268	1·75558		2·43217	1·75628	3
4		3·24561	2·33794		3·24493	2·33888		3·24425	2·33983		3·24357	2·34077		3·24289	2·34171	4
5		4·05702	2·92242		4·05617	2·92360		4·05531	2·92478		4·05446	2·92596		4·05361	2·92714	5
6		4·86842	3·50691		4·86740	3·50833		4·86638	3·50974		4·86536	3·51116		4·86434	3·51257	6
7		5·67982	4·09139		5·67863	4·09305		5·67744	4·09470		5·67625	4·09635		5·67506	4·09800	7
8		6·49123	4·67588		6·48987	4·67777		6·48851	4·67966		6·48714	4·68154		6·48578	4·68343	8
9		7·30263	5·26037		7·30110	5·26249		7·29957	5·26461		7·29804	5·26674		7·29651	5·26886	9
10	14	8·11404	5·84485	13	8·11234	5·84721	12	8·11063	5·84957	11	8·10893	5·85193	10	8·10723	5·85429	10
1	56	0·80970	0·58684	57	0·80953	0·58707	58	0·80935	0·58731	59	0·80918	0·58755	60	0·80901	0·58778	1
2		1·61940	1·17368		1·61906	1·17415		1·61871	1·17462		1·61837	1·17510		1·61803	1·17557	2
3		2·42910	1·76053		2·42859	1·76123		2·42807	1·76194		2·42756	1·76265		2·42705	1·76335	3
4		3·23880	2·34737		3·23812	2·34831		3·23743	2·34925		3·23675	2·35020		3·23606	2·35114	4
5		4·04850	2·93421		4·04765	2·93539		4·04679	2·93657		4·04594	2·93775		4·04508	2·93892	5
6		4·85820	3·52106		4·85718	3·52247		4·85615	3·52388		4·85512	3·52530		4·85410	3·52671	6
7		5·66790	4·10790		5·66671	4·10955		5·66551	4·11120		5·66431	4·11285		5·66311	4·11449	7
8		6·47760	4·69474		6·47624	4·69663		6·47487	4·69851		6·47350	4·70040		6·47213	4·70228	8
9		7·28730	5·28159		7·28577	5·28371		7·28422	5·28583		7·28269	5·28795		7·28115	5·29006	9
10	04	8·09700	5·86843	03	8·09530	5·87079	02	8·09358	5·87314	01	8·09188	5·87550	00	8·09017	5·87785	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

54 DEG.

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6

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·87447	0·48506	02	0·87433	0·48531	03	0·87419	0·48557	04	0·87405	0·48582	05	0·87391	0·48608	1
2		1·74895	0·97012		1·74867	0·97063		1·74839	0·97114		1·74811	0·97165		1·74782	0·97216	2
3		2·62343	1·45519		2·62301	1·45595		2·62258	1·45671		2·62216	1·45748		2·62174	1·45824	3
4		3·49791	1·94025		3·49735	1·94127		3·49678	1·94229		3·49622	1·94330		3·49565	1·94432	4
5		4·37239	2·42532		4·37168	2·42659		4·37098	2·42786		4·37027	2·42913		4·36956	2·43040	5
6		5·24687	2·91038		5·24602	2·91191		5·24517	2·91343		5·24433	2·91496		5·24348	2·91648	6
7		6·12135	3·39544		6·12036	3·39722		6·11937	3·39900		6·11838	3·40078		6·11739	3·40256	7
8		6·99582	3·88051		6·99470	3·88254		6·99357	3·88458		6·99244	3·88661		6·99130	3·88864	8
9		7·87030	4·36557		7·86903	4·36786		7·86776	4·37015		7·86649	4·37244		7·86522	4·37473	9
10	59	8·74478	4·85064	58	8·74337	4·85318	57	8·74196	4·85572	56	8·74055	4·85827	55	8·73913	4·86081	10
1	11	0·87306	0·48760	12	0·87292	0·48786	13	0·87278	0·48811	14	0·87263	0·48836	15	0·87249	0·48862	1
2		1·74612	0·97521		1·74584	0·97572		1·74556	0·97622		1·74527	0·97673		1·74499	0·97724	2
3		2·61919	1·46281		2·61876	1·46358		2·61834	1·46434		2·61791	1·46510		2·61748	1·46586	3
4		3·49225	1·95042		3·49168	1·95144		3·49112	1·95245		3·49055	1·95346		3·48998	1·95448	4
5		4·36532	2·43802		4·36461	2·43930		4·36390	2·44056		4·36319	2·44183		4·36248	2·44310	5
6		5·23838	2·92563		5·23753	2·92716		5·23668	2·92868		5·23582	2·93020		5·23497	2·93172	6
7		6·11144	3·41323		6·11045	3·41502		6·10946	3·41679		6·10846	3·41857		6·10747	3·42034	7
8		6·98451	3·90084		6·98337	3·90288		6·98224	3·90490		6·98110	3·90693		6·97996	3·90896	8
9		7·85757	4·38845		7·85629	4·39074		7·85502	4·39302		7·85374	4·39530		7·85246	4·39759	9
10	49	8·73064	4·87605	48	8·72922	4·87860	47	8·72780	4·88113	46	8·72638	4·88367	45	8·72496	4·88621	10
1	21	0·87164	0·49014	22	0·87149	0·49039	23	0·87135	0·49065	24	0·87121	0·49090	25	0·87107	0·49115	1
2		1·74328	0·98028		1·74299	0·98079		1·74271	0·98130		1·74242	0·98180		1·74214	0·98231	2
3		2·61492	1·47042		2·61449	1·47119		2·61406	1·47195		2·61364	1·47271		2·61321	1·47347	3
4		3·48656	1·96057		3·48599	1·96158		3·48542	1·96260		3·48485	1·96361		3·48428	1·96462	4
5		4·35821	2·45071		4·35749	2·45198		4·35678	2·45325		4·35606	2·45451		4·35535	2·45578	5
6		5·22985	2·94085		5·22899	2·94238		5·22813	2·94390		5·22728	2·94542		5·22642	2·94694	6
7		6·10149	3·43100		6·10049	3·43277		6·09949	3·43455		6·09849	3·43632		6·09749	3·43810	7
8		6·97313	3·92114		6·97199	3·92317		6·97085	3·92520		6·96971	3·92723		6·96856	3·92925	8
9		7·84477	4·41128		7·84349	4·41357		7·84220	4·41585		7·84092	4·41813		7·83963	4·42041	9
10	39	8·71642	4·90143	38	8·71499	4·90396	37	8·71356	4·90650	36	8·71213	4·90903	35	8·71071	4·91157	10
1	31	0·87021	0·49267	32	0·87006	0·49293	33	0·86992	0·49318	34	0·86978	0·49343	35	0·86963	0·49368	1
2		1·74042	0·98535		1·74013	0·98586		1·73985	0·98636		1·73956	0·98687		1·73927	0·98737	2
3		2·61063	1·47803		2·61020	1·47879		2·60977	1·47954		2·60934	1·48030		2·60891	1·48106	3
4		3·48084	1·97070		3·48027	1·97172		3·47970	1·97273		3·47912	1·97374		3·47855	1·97475	4
5		4·35106	2·46338		4·35034	2·46465		4·34962	2·46591		4·34891	2·46718		4·34819	2·46844	5
6		5·22127	2·95606		5·22041	2·95758		5·21955	2·95909		5·21869	2·96061		5·21783	2·96213	6
7		6·09148	3·44873		6·09048	3·45051		6·08947	3·45228		6·08847	3·45405		6·08747	3·45582	7
8		6·96169	3·94141		6·96055	3·94344		6·95940	3·94546		6·95825	3·94748		6·95710	3·94951	8
9		7·83191	4·43409		7·83062	4·43637		7·82933	4·43864		7·82803	4·44092		7·82674	4·44320	9
10	29	8·70212	4·92676	28	8·70069	4·92930	27	8·69925	4·93183	26	8·69782	4·93436	25	8·69638	4·93689	10
1	41	0·86877	0·49520	42	0·86863	0·49545	43	0·86848	0·49571	44	0·86834	0·49596	45	0·86819	0·49621	1
2		1·73755	0·99041		1·73726	0·99091		1·73697	0·99142		1·73668	0·99192		1·73639	0·99243	2
3		2·60632	1·48561		2·60589	1·48637		2·60546	1·48713		2·60502	1·48789		2·60459	1·48864	3
4		3·47510	1·98082		3·47452	1·98183		3·47394	1·98284		3·47337	1·98385		3·47279	1·98486	4
5		4·34387	2·47603		4·34315	2·47729		4·34243	2·47855		4·34171	2·47981		4·34099	2·48108	5
6		5·21265	2·97123		5·21178	2·97275		5·21092	2·97426		5·21005	2·97578		5·20919	2·97729	6
7		6·08142	3·46644		6·08042	3·46821		6·07941	3·46997		6·07840	3·47174		6·07739	3·47351	7
8		6·95020	3·96164		6·94905	3·96366		6·94789	3·96569		6·94674	3·96771		6·94559	3·96973	8
9		7·81898	4·45685		7·81768	4·45912		7·81638	4·46140		7·81508	4·46367		7·81378	4·46594	9
10	19	8·68775	4·95206	18	8·68631	4·95458	17	8·68487	4·95711	16	8·68343	4·95964	15	8·68198	4·96216	10
1	51	0·86733	0·49773	52	0·86718	0·49798	53	0·86704	0·49823	54	0·86689	0·49848	55	0·86675	0·49874	1
2		1·73466	0·99546		1·73437	0·99596		1·73408	0·99647		1·73379	0·99697		1·73350	0·99748	2
3		2·60199	1·49319		2·60155	1·49394		2·60112	1·49470		2·60069	1·49546		2·60025	1·49623	3
4		3·46932	1·99092		3·46874	1·99193		3·46816	1·99294		3·46758	1·99395		3·46700	1·99496	4
5		4·33665	2·48865		4·33593	2·48991		4·33520	2·49117		4·33448	2·49243		4·33375	2·49370	5
6		5·20398	2·98638		5·20311	2·98789		5·20225	2·98941		5·20138	2·99092		5·20051	2·99244	6
7		6·07131	3·48411		6·07030	3·48588		6·06929	3·48764		6·06827	3·48941		6·06726	3·49118	7
8		6·93865	3·98184		6·93749	3·98386		6·93633	3·98588		6·93517	3·98790		6·93401	3·98992	8
9		7·80598	4·47957		7·80467	4·48184		7·80337	4·48411		7·80207	4·48638		7·80076	4·48866	9
10	09	8·67331	4·97731	08	8·67186	4·97983	07	8·67041	4·98235	06	8·66896	4·98487	05	8·66751	4·98740	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·87377	0·48633	07	0·87363	0·48659	08	0·87348	0·48684	09	0·87334	0·48709	10	0·87320	0·48735	1
2		1·74754	0·97267		1·74726	0·97318		1·74697	0·97368		1·74669	0·97419		1·74641	0·97470	2
3		2·62131	1·45900		2·62089	1·45977		2·62046	1·46053		2·62004	1·46129		2·61961	1·46205	3
4		3·49508	1·94534		3·49452	1·94636		3·49395	1·94737		3·49339	1·94839		3·49282	1·94940	4
5		4·36886	2·43167		4·36815	2·43295		4·36744	2·43421		4·36673	2·43548		4·36602	2·43675	5
6		5·24263	2·91801		5·24178	2·91954		5·24093	2·92106		5·24008	2·92258		5·23923	2·92411	6
7		6·11640	3·40434		6·11541	3·40613		6·11442	3·40790		6·11343	3·40968		6·11244	3·41146	7
8		6·99017	3·89068		6·98904	3·89272		6·98791	3·89474		6·98678	3·89678		6·98564	3·89881	8
9		7·86394	4·37701		7·86267	4·37931		7·86140	4·38159		7·86012	4·38387		7·85885	4·38616	9
10	54	8·73772	4·86335	53	8·73630	4·86590	52	8·73489	4·86843	51	8·73347	4·87097	50	8·73205	4·87351	10
1	16	0·87235	0·48887	17	0·87221	0·48912	18	0·87206	0·48938	19	0·87192	0·48963	20	0·87178	0·48989	1
2		1·74470	0·97775		1·74442	0·97825		1·74413	0·97876		1·74385	0·97927		1·74356	0·97978	2
3		2·61706	1·46662		2·61663	1·46738		2·61620	1·46814		2·61578	1·46890		2·61535	1·46967	3
4		3·48941	1·95550		3·48884	1·95651		3·48827	1·95753		3·48770	1·95854		3·48713	1·95956	4
5		4·36176	2·44437		4·36105	2·44564		4·36034	2·44691		4·35963	2·44818		4·35892	2·44945	5
6		5·23412	2·93325		5·23326	2·93477		5·23241	2·93629		5·23156	2·93781		5·23070	2·93934	6
7		6·10647	3·42212		6·10548	3·42390		6·10448	3·42567		6·10348	3·42745		6·10249	3·42923	7
8		6·97883	3·91100		6·97769	3·91303		6·97655	3·91506		6·97541	3·91708		6·97427	3·91912	8
9		7·85118	4·39987		7·84990	4·40215		7·84862	4·40444		7·84734	4·40672		7·84605	4·40901	9
10	44	8·72353	4·88875	43	8·72211	4·89128	42	8·72069	4·89382	41	8·71927	4·89636	40	8·71784	4·89890	10
1	26	0·87092	0·49141	27	0·87078	0·49166	28	0·87064	0·49191	29	0·87049	0·49217	30	0·87035	0·49242	1
2		1·74185	0·98282		1·74157	0·98332		1·74128	0·98383		1·74099	0·98434		1·74071	0·98484	2
3		2·61278	1·47423		2·61235	1·47499		2·61192	1·47575		2·61149	1·47651		2·61106	1·47727	3
4		3·48371	1·96564		3·48314	1·96665		3·48256	1·96766		3·48199	1·96868		3·48142	1·96969	4
5		4·35464	2·45705		4·35392	2·45831		4·35321	2·45958		4·35249	2·46085		4·35177	2·46211	5
6		5·22556	2·94846		5·22471	2·94998		5·22385	2·95150		5·22299	2·95302		5·22213	2·95454	6
7		6·09649	3·43987		6·09549	3·44164		6·09449	3·44341		6·09349	3·44519		6·09248	3·44696	7
8		6·96742	3·93128		6·96628	3·93331		6·96513	3·93533		6·96399	3·93736		6·96284	3·93938	8
9		7·83835	4·42269		7·83706	4·42497		7·83577	4·42725		7·83449	4·42953		7·83320	4·43181	9
10	34	8·70928	4·91410	33	8·70785	4·91663	32	8·70642	4·91917	31	8·70499	4·92170	30	8·70355	4·92423	10
1	36	0·86949	0·49394	37	0·86935	0·49419	38	0·86920	0·49444	39	0·86906	0·49470	40	0·86892	0·49495	1
2		1·73898	0·98788		1·73870	0·98838		1·73841	0·98889		1·73812	0·98940		1·73784	0·98990	2
3		2·60848	1·48182		2·60805	1·48258		2·60762	1·48334		2·60719	1·48410		2·60676	1·48486	3
4		3·47797	1·97576		3·47740	1·97677		3·47682	1·97779		3·47625	1·97880		3·47568	1·97981	4
5		4·34747	2·46971		4·34675	2·47097		4·34603	2·47223		4·34531	2·47350		4·34460	2·47476	5
6		5·21696	2·96365		5·21610	2·96516		5·21524	2·96668		5·21438	2·96820		5·21352	2·96971	6
7		6·08646	3·45759		6·08545	3·45936		6·08445	3·46113		6·08344	3·46290		6·08244	3·46467	7
8		6·95595	3·95153		6·95480	3·95355		6·95365	3·95558		6·95250	3·95760		6·95136	3·95962	8
9		7·82545	4·44547		7·82416	4·44775		7·82286	4·45002		7·82157	4·45230		7·82028	4·45457	9
10	24	8·69495	4·93942	23	8·69351	4·94194	22	8·69207	4·94447	21	8·69063	4·94700	20	8·68920	4·94953	10
1	46	0·86805	0·49646	47	0·86791	0·49672	48	0·86776	0·49697	49	0·86762	0·49722	50	0·86747	0·49747	1
2		1·73610	0·99293		1·73582	0·99344		1·73553	0·99394		1·73524	0·99445		1·73495	0·99495	2
3		2·60416	1·48940		2·60373	1·49016		2·60329	1·49092		2·60286	1·49167		2·60242	1·49243	3
4		3·47221	1·98587		3·47164	1·98688		3·47106	1·98789		3·47048	1·98890		3·46990	1·98991	4
5		4·34027	2·48234		4·33955	2·48360		4·33882	2·48487		4·33810	2·48613		4·33738	2·48739	5
6		5·20832	2·97881		5·20746	2·98032		5·20659	2·98184		5·20572	2·98335		5·20485	2·98487	6
7		6·07638	3·47528		6·07537	3·47705		6·07435	3·47881		6·07334	3·48058		6·07233	3·48235	7
8		6·94443	3·97175		6·94328	3·97377		6·94212	3·97579		6·94096	3·97781		6·93980	3·97982	8
9		7·81248	4·46822		7·81119	4·47049		7·80988	4·47276		7·80858	4·47503		7·80728	4·47730	9
10	14	8·68054	4·96469	13	8·67910	4·96721	12	8·67765	4·96974	11	8·67621	4·97226	10	8·67476	4·97478	10
1	56	0·86660	0·49899	57	0·86646	0·49924	58	0·86631	0·49949	59	0·86617	0·49974	60	0·86602	0·50000	1
2		1·73321	0·99798		1·73292	0·99848		1·73263	0·99899		1·73234	0·99949		1·73205	1·00000	2
3		2·59981	1·49697		2·59938	1·49773		2·59894	1·49848		2·59851	1·49924		2·59807	1·50000	3
4		3·46642	1·99596		3·46584	1·99697		3·46526	1·99798		3·46468	1·99899		3·46410	2·00000	4
5		4·33303	2·49496		4·33230	2·49622		4·33158	2·49748		4·33085	2·49874		4·33012	2·50000	5
6		5·19963	2·99395		5·19876	2·99546		5·19789	2·99697		5·19702	2·99848		5·19615	3·00000	6
7		6·06624	3·49294		6·06522	3·49470		6·06421	3·49647		6·06319	3·49823		6·06217	3·50000	7
8		6·93285	3·99193		6·93169	3·99395		6·93052	3·99596		6·92936	3·99798		6·92820	4·00000	8
9		7·79945	4·49092		7·79815	4·49319		7·79684	4·49546		7·79553	4·49773		7·79422	4·50000	9
10	04	8·66606	4·98992	03	8·66461	4·99244	02	8·66316	4·99496	01	8·66170	4·99748	00	8·66025	5·00000	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

6

60 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·86588	0·50025	02	0·86573	0·50050	03	0·86558	0·50075	04	0·86544	0·50100	05	0·86529	0·50125	1
2		1·73176	1·00050		1·73146	1·00100		1·73117	1·00151		1·73088	1·00201		1·73059	1·00251	2
3		2·59764	1·50075		2·59720	1·50151		2·59676	1·50226		2·59632	1·50302		2·59589	1·50377	3
4		3·46352	2·00100		3·46293	2·00201		3·46235	2·00302		3·46177	2·00402		3·46118	2·00503	4
5		4·32940	2·50126		4·32867	2·50251		4·32794	2·50377		4·32721	2·50503		4·32648	2·50629	5
6		5·19528	3·00151		5·19440	3·00302		5·19353	3·00453		5·19265	3·00604		5·19178	3·00755	6
7		6·06116	3·50176		6·06014	3·50352		6·05912	3·50528		6·05810	3·50705		6·05708	3·50881	7
8		6·92704	4·00201		6·92587	4·00402		6·92470	4·00604		6·92354	4·00805		6·92237	4·01007	8
9		7·79292	4·50226		7·79160	4·50453		7·79029	4·50680		7·78898	4·50906		7·78767	4·51133	9
10	59	8·65880	5·00252	58	8·65734	5·00503	57	8·65588	5·00755	56	8·65443	5·01007	55	8·65297	5·01259	10
1	11	0·86442	0·50276	12	0·86427	0·50302	13	0·86412	0·50327	14	0·86398	0·50352	15	0·86383	0·50377	1
2		1·72884	1·00553		1·72854	1·00604		1·72825	1·00654		1·72796	1·00704		1·72767	1·00754	2
3		2·59326	1·50830		2·59282	1·50906		2·59238	1·50981		2·59194	1·51056		2·59150	1·51132	3
4		3·45768	2·01107		3·45709	2·01208		3·45651	2·01308		3·45592	2·01409		3·45534	2·01509	4
5		4·32210	2·51384		4·32137	2·51510		4·32064	2·51635		4·31991	2·51761		4·31917	2·51887	5
6		5·18652	3·01661		5·18564	3·01812		5·18477	3·01962		5·18389	3·02113		5·18301	3·02264	6
7		6·05094	3·51937		6·04992	3·52114		6·04889	3·52289		6·04787	3·52465		6·04684	3·52641	7
8		6·91536	4·02214		6·91419	4·02416		6·91302	4·02617		6·91185	4·02818		6·91068	4·03019	8
9		7·77978	4·52491		7·77847	4·52718		7·77715	4·52944		7·77583	4·53170		7·77451	4·53396	9
10	49	8·64421	5·02768	48	8·64274	5·03020	47	8·64128	5·03271	46	8·63982	5·03522	45	8·63835	5·03774	10
1	21	0·86295	0·50528	22	0·86280	0·50553	23	0·86266	0·50578	24	0·86251	0·50603	25	0·86236	0·50628	1
2		1·72590	1·01056		1·72561	1·01106		1·72532	1·01156		1·72502	1·01206		1·72473	1·01256	2
3		2·58886	1·51584		2·58842	1·51659		2·58798	1·51734		2·58754	1·51810		2·58709	1·51885	3
4		3·45181	2·02112		3·45123	2·02212		3·45064	2·02313		3·45005	2·02413		3·44946	2·02513	4
5		4·31477	2·52640		4·31404	2·52766		4·31330	2·52891		4·31256	2·53016		4·31183	2·53142	5
6		5·17772	3·03168		5·17684	3·03319		5·17596	3·03469		5·17508	3·03620		5·17419	3·03770	6
7		6·04068	3·53696		6·03965	3·53872		6·03862	3·54047		6·03759	3·54223		6·03656	3·54399	7
8		6·90363	4·04224		6·90246	4·04425		6·90128	4·04626		6·90010	4·04827		6·89893	4·05027	8
9		7·76659	4·54752		7·76527	4·54978		7·76394	4·55204		7·76262	4·55430		7·76129	4·55656	9
10	39	8·62955	5·05281	38	8·62808	5·05532	37	8·62660	5·05782	36	8·62513	5·06033	35	8·62366	5·06284	10
1	31	0·86148	0·50778	32	0·86133	0·50804	33	0·86118	0·50829	34	0·86103	0·50854	35	0·86089	0·50879	1
2		1·72296	1·01557		1·72266	1·01608		1·72237	1·01658		1·72207	1·01708		1·72178	1·01758	2
3		2·58444	1·52336		2·58400	1·52412		2·58355	1·52487		2·58311	1·52562		2·58267	1·52637	3
4		3·44592	2·03115		3·44533	2·03216		3·44474	2·03316		3·44415	2·03416		3·44356	2·03516	4
5		4·30740	2·53894		4·30666	2·54020		4·30593	2·54145		4·30519	2·54270		4·30445	2·54395	5
6		5·16888	3·04673		5·16800	3·04824		5·16711	3·04974		5·16622	3·05124		5·16534	3·05274	6
7		6·03037	3·55452		6·02933	3·55628		6·02830	3·55803		6·02726	3·55978		6·02623	3·56153	7
8		6·89185	4·06231		6·89066	4·06432		6·88948	4·06632		6·88830	4·06832		6·88712	4·07032	8
9		7·75333	4·57010		7·75200	4·57236		7·75067	4·57461		7·74934	4·57686		7·74801	4·57911	9
10	29	8·61481	5·07789	28	8·61333	5·08040	27	8·61186	5·08290	26	8·61038	5·08540	25	8·60890	5·08791	10
1	41	0·86000	0·51029	42	0·85985	0·51054	43	0·85970	0·51079	44	0·85955	0·51104	45	0·85940	0·51129	1
2		1·72000	1·02058		1·71970	1·02108		1·71940	1·02158		1·71911	1·02208		1·71881	1·02258	2
3		2·58000	1·53087		2·57955	1·53162		2·57911	1·53237		2·57866	1·53312		2·57821	1·53387	3
4		3·44000	2·04117		3·43940	2·04217		3·43881	2·04317		3·43822	2·04417		3·43762	2·04517	4
5		4·30000	2·55146		4·29926	2·55271		4·29851	2·55396		4·29777	2·55521		4·29703	2·55646	5
6		5·16000	3·06175		5·15911	3·06325		5·15822	3·06475		5·15733	3·06625		5·15643	3·06775	6
7		6·02000	3·57204		6·01896	3·57380		6·01792	3·57555		6·01688	3·57730		6·01584	3·57905	7
8		6·88000	4·08234		6·87881	4·08434		6·87762	4·08634		6·87644	4·08834		6·87525	4·09034	8
9		7·74000	4·59263		7·73867	4·59488		7·73733	4·59713		7·73599	4·59938		7·73465	4·60163	9
10	19	8·60000	5·10292	18	8·59852	5·10543	17	8·59703	5·10793	16	8·59555	5·11043	15	8·59406	5·11293	10
1	51	0·85851	0·51279	52	0·85836	0·51304	53	0·85821	0·51329	54	0·85806	0·51354	55	0·85791	0·51379	1
2		1·71702	1·02558		1·71672	1·02608		1·71642	1·02658		1·71612	1·02708		1·71583	1·02758	2
3		2·57553	1·53837		2·57509	1·53912		2·57464	1·53987		2·57419	1·54062		2·57374	1·54137	3
4		3·43405	2·05116		3·43345	2·05216		3·43285	2·05316		3·43225	2·05416		3·43166	2·05516	4
5		4·29256	2·56396		4·29181	2·56521		4·29107	2·56645		4·29032	2·56770		4·28957	2·56895	5
6		5·15107	3·07675		5·15018	3·07825		5·14928	3·07975		5·14838	3·08124		5·14749	3·08274	6
7		6·00958	3·58954		6·00854	3·59129		6·00750	3·59304		6·00645	3·59478		6·00540	3·59653	7
8		6·86810	4·10233		6·86690	4·10433		6·86571	4·10633		6·86451	4·10833		6·86332	4·11032	8
9		7·72661	4·61513		7·72527	4·61737		7·72392	4·61962		7·72258	4·62187		7·72123	4·62411	9
10	09	8·58512	5·12792	08	8·58363	5·13042	07	8·58214	5·13291	06	8·58065	5·13541	05	8·57915	5·13790	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·86515	0·50151	07	0·86500	0·50176	08	0·86485	0·50201	09	0·86471	0·50226	10	0·86456	0·50251	1
2		1·73030	1·00302		1·73001	1·00352		1·72971	1·00402		1·72942	1·00453		1·72913	1·00503	2
3		2·59545	1·50453		2·59501	1·50528		2·59457	1·50604		2·59414	1·50679		2·59370	1·50755	3
4		3·46060	2·00604		3·46002	2·00704		3·45943	2·00805		3·45885	2·00906		3·45826	2·01006	4
5		4·32575	2·50755		4·32502	2·50881		4·32429	2·51007		4·32356	2·51132		4·32283	2·51258	5
6		5·19090	3·00906		5·19003	3·01057		5·18915	3·01208		5·18828	3·01359		5·18740	3·01510	6
7		6·05605	3·51057		6·05503	3·51233		6·05401	3·51409		6·05299	3·51585		6·05197	3·51761	7
8		6·92121	4·01208		6·92004	4·01409		6·91887	4·01611		6·91770	4·01812		6·91653	4·02013	8
9		7·78636	4·51359		7·78504	4·51586		7·78373	4·51812		7·78242	4·52038		7·78110	4·52265	9
10	54	8·65151	5·01510	53	8·65005	5·01762	52	8·64859	5·02014	51	8·64713	5·02265	50	8·64567	5·02517	10
1	16	0·86368	0·50402	17	0·86354	0·50427	18	0·86339	0·50452	19	0·86324	0·50477	20	0·86310	0·50503	1
2		1·72737	1·00805		1·72708	1·00855		1·72679	1·00905		1·72649	1·00955		1·72620	1·01006	2
3		2·59106	1·51207		2·59062	1·51282		2·59018	1·51358		2·58974	1·51433		2·58930	1·51509	3
4		3·45475	2·01610		3·45416	2·01710		3·45358	2·01811		3·45299	2·01911		3·45240	2·02012	4
5		4·31844	2·52012		4·31771	2·52138		4·31697	2·52263		4·31624	2·52389		4·31551	2·52515	5
6		5·18213	3·02415		5·18125	3·02565		5·18037	3·02716		5·17949	3·02867		5·17861	3·03018	6
7		6·04582	3·52817		6·04479	3·52993		6·04376	3·53169		6·04274	3·53345		6·04171	3·53521	7
8		6·90951	4·03220		6·90833	4·03421		6·90716	4·03622		6·90599	4·03823		6·90481	4·04024	8
9		7·77320	4·53622		7·77188	4·53848		7·77056	4·54074		7·76923	4·54300		7·76791	4·54527	9
10	44	8·63689	5·04025	43	8·63542	5·04276	42	8·63395	5·04527	41	8·63248	5·04778	40	8·63102	5·05030	10
1	26	0·86221	0·50653	27	0·86207	0·50678	28	0·86192	0·50703	29	0·86177	0·50728	30	0·86162	0·50753	1
2		1·72443	1·01307		1·72414	1·01357		1·72384	1·01407		1·72355	1·01457		1·72325	1·01507	2
3		2·58665	1·51960		2·58621	1·52035		2·58577	1·52111		2·58533	1·52186		2·58488	1·52261	3
4		3·44887	2·02614		3·44828	2·02714		3·44769	2·02814		3·44710	2·02915		3·44651	2 03015	4
5		4·31109	2·53267		4·31035	2·53393		4·30962	2·53518		4·30888	2·53643		4·30814	2·53769	5
6		5·17331	3·03921		5·17243	3 04071		5·17154	3·04222		5·17066	3·04372		5·16977	3·04523	6
7		6·03553	3·54574		6·03450	3·54750		6·03347	3·54925		6·03243	3·55101		6·03140	3·55276	7
8		6·89775	4·05228		6·89657	4·05429		6·89539	4·05629		6·89421	4·05830		6·89303	4·06030	8
9		7·75997	4·55881		7·75864	4·56107		7·75731	4·56333		7·75599	4·56558		7·75466	4·56784	9
10	34	8·62219	5·06535	33	8·62071	5·06786	32	8·61924	5·07037	31	8·61776	5·07287	30	8·61629	5·07538	10
1	36	0·86074	0·50904	37	0·86059	0·50929	38	0·86044	0·50954	39	0·86029	0·50979	40	0·86014	0·51004	1
2		1·72148	1·01808		1·72118	1·01858		1·72089	1·01908		1·72059	1·01958		1·72029	1·02008	2
3		2·58222	1·52712		2·58178	1·52787		2·58133	1·52862		2·58089	1·52937		2·58044	1·53012	3
4		3·44296	2·03616		3·44237	2·03716		3·44178	2·03816		3·44119	2·03916		3·44059	2·04017	4
5		4·30371	2·54520		4·30297	2·54645		4·30222	2·54771		4·30148	2·54896		4·30074	2·55021	5
6		5·16445	3·05424		5·16356	3·05575		5·16267	3·05725		5·16178	3·05875		5·16089	3·06025	6
7		6·02519	3·56328		6·02415	3·56504		6·02311	3·56679		6·02208	3·56854		6·02104	3·57029	7
8		6·88593	4·07233		6·88475	4·07433		6·88356	4·07633		6·88238	4·07833		6·88119	4·08034	8
9		7·74667	4·58137		7·74534	4·58362		7·74401	4·58587		7 74267	4·58813		7·74134	4·59038	9
10	24	8·60742	5·09041	23	8·60594	5·09291	22	8·60445	5·09542	21	8·60297	5·09792	20	8·60149	5·10042	10
1	46	0·85925	0·51154	47	0·85910	0·51179	48	0·85896	0·51204	49	0·85881	0·51229	50	0·85866	0·51254	1
2		1·71851	1·02308		1·71821	1·02358		1·71792	1·02408		1·71762	1·02458		1·71732	1·02508	2
3		2·57777	1·53462		2·57732	1·53537		2·57688	1·53612		2·57643	1·53687		2·57598	1·53762	3
4		3·43703	2·04617		3·43643	2·04717		3·43584	2·04817		3·43524	2·04917		3·43464	2·05017	4
5		4·29628	2·55771		4·29554	2·55896		4·29480	2·56021		4·29405	2·56146		4·29331	2·56271	5
6		5·15554	3·06925		5·15465	3·07075		5·15376	3·07225		5·15286	3·07375		5·15197	3·07525	6
7		6·01480	3·58080		6·01376	3·58255		6·01272	3·58430		6·01167	3·58604		6 01063	3·58779	7
8		6·87406	4·09234		6·87287	4·09434		6·87168	4·09634		6·87048	4·09834		6·86929	4·10034	8
9		7·73331	4·60388		7·73197	4·60613		7·73064	4·60838		7·72929	4·61063		7·72795	4·61288	9
10	14	8·59257	5·11543	13	8·59108	5·11793	12	8·58960	5·12043	11	8·58811	5·12292	10	8·58662	5·12542	10
1	56	0·85776	0·51404	57	0·85761	0·51429	58	0·85746	0·51453	59	0·85731	0·51478	60	0·85716	0·51503	1
2		1·71553	1·02808		1·71523	1·02858		1·71493	1·02907		1·71463	1·02957		1·71433	1·03007	2
3		2·57329	1·54212		2·57284	1·54287		2·57240	1·54361		2·57195	1·54436		2·57150	1·54511	3
4		3·43106	2·05616		3·43046	2·05716		3·42986	2·05815		3·42926	2·05915		3·42866	2·06015	4
5		4·28883	2·57020		4·28808	2·57145		4·28733	2·57269		4·28658	2·57394		4·28583	2·57519	5
6		5·14659	3·08424		5·14569	3·08574		5·14480	3·08723		5·14390	3·08873		5·14300	3·09022	6
7		6·00436	3·59828		6·00331	3·60003		6·00226	3·60177		6·00121	3·60352		6·00017	3·60526	7
8		6·86212	4·11232		6·86093	4·11432		6·85973	4·11631		6·85853	4·11830		6·85733	4·12030	8
9		7·71989	4·62636		7·71854	4·62861		7·71720	4·63085		7·71585	4·63309		7·71450	4·63534	9
10	04	8·57766	5·14040	03	8·57616	5·14290	02	8·57466	5·14539	01	8·57317	5·14788	00	8·57167	5·15038	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

59 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·85701	0·51528	02	0·85686	0·51553	03	0·85671	0·51578	04	0·85656	0·51603	05	0·85641	0·51628	1
2		1·71403	1·03057		1·71373	1·03107		1·71343	1·03157		1·71313	1·03207		1·71283	1·03256	2
3		2·57105	1·54586		2·57060	1·54661		2·57015	1·54735		2·56970	1·54810		2·56925	1·54885	3
4		3·42806	2·06114		3·42747	2·06214		3·42687	2·06314		3·42626	2·06414		3·42566	2·06513	4
5		4·28508	2·57643		4·28433	2·57768		4·28358	2·57893		4·28283	2·58017		4·28208	2·58142	5
6		5·14210	3·09172		5·14120	3·09322		5·14030	3·09471		5·13940	3·09621		5·13850	3·09770	6
7		5·99912	3·60701		5·99807	3·60875		5·99702	3·61050		5·99597	3·61224		5·99492	3·61398	7
8		6·85613	4·12229		6·85494	4·12429		6·85374	4·12628		6·85253	4·12828		6·85133	4·13027	8
9		7·71315	4·63758		7·71180	4·63983		7·71045	4·64207		7·70910	4·64431		7·70775	4·64655	9
10	59	8·57017	5·15287	58	8·56867	5·15536	57	8·56717	5·15786	56	8·56567	5·16035	55	8·56417	5·16284	10
1	11	0·85551	0·51777	12	0·85536	0·51802	13	0·85521	0·51827	14	0·85506	0·51852	15	0·85491	0·51877	1
2		1·71102	1·03555		1·71072	1·03605		1·71042	1·03655		1·71012	1·03704		1·70982	1·03754	2
3		2·56654	1·55333		2·56609	1·55408		2·56564	1·55482		2·56518	1·55557		2·56473	1·55631	3
4		3·42205	2·07111		3·42145	2·07210		3·42085	2·07310		3·42025	2·07409		3·41964	2·07509	4
5		4·27757	2·58889		4·27682	2·59013		4·27606	2·59137		4·27531	2·59262		4·27456	2·59386	5
6		5·13308	3·10666		5·13218	3·10816		5·13128	3·10965		5·13037	3·11114		5·12947	3·11263	6
7		5·98860	3·62444		5·98755	3·62618		5·98649	3·62793		5·98543	3·62967		5·98438	3·63141	7
8		6·84411	4·14222		6·84291	4·14421		6·84170	4·14620		6·84050	4·14819		6·83929	4·15018	8
9		7·69963	4·66000		7·69827	4·66224		7·69692	4·66448		7·69556	4·66672		7·69420	4·66895	9
10	49	8·55515	5·17778	48	8·55364	5·18027	47	8·55213	5·18275	46	8·55062	5·18524	45	8·54912	5·18773	10
1	21	0·85400	0·52026	22	0·85385	0·52051	23	0·85370	0·52076	24	0·85355	0·52101	25	0·85339	0·52125	1
2		1·70801	1·04052		1·70770	1·04102		1·70740	1·04152		1·70710	1·04202		1·70679	1·04251	2
3		2·56201	1·56079		2·56156	1·56153		2·56110	1·56228		2·56065	1·56303		2·56019	1·56377	3
4		3·41602	2·08105		3·41541	2·08205		3·41480	2·08304		3·41420	2·08404		3·41359	2·08503	4
5		4·27002	2·60132		4·26926	2·60256		4·26851	2·60380		4·26775	2·60505		4·26699	2·60629	5
6		5·12403	3·12158		5·12312	3·12307		5·12221	3·12456		5·12130	3·12606		5·12039	3·12754	6
7		5·97803	3·64185		5·97697	3·64359		5·97591	3·64532		5·97485	3·64707		5·97379	3·64880	7
8		6·83204	4·16211		6·83083	4·16410		6·82961	4·16609		6·82840	4·16808		6·82719	4·17006	8
9		7·68604	4·68238		7·68468	4·68461		7·68332	4·68685		7·68195	4·68909		7·68059	4·69132	9
10	39	8·54005	5·20264	38	8·53853	5·20513	37	8·53702	5·20761	36	8·53550	5·21010	35	8·53399	5·21258	10
1	31	0·85248	0·52274	32	0·85233	0·52299	33	0·85218	0·52324	34	0·85203	0·52349	35	0·85187	0·52373	1
2		1·70497	1·04549		1·70467	1·04598		1·70436	1·04648		1·70406	1·04698		1·70375	1·04747	2
3		2·55746	1·56823		2·55700	1·56898		2·55655	1·56972		2·55609	1·57047		2·55563	1·57121	3
4		3·40995	2·09098		3·40934	2·09197		3·40873	2·09296		3·40812	2·09396		3·40751	2·09495	4
5		4·26244	2·61373		4·26168	2·61497		4·26092	2·61621		4·26015	2·61745		4·25939	2·61869	5
6		5·11492	3·13647		5·11401	3·13796		5·11310	3·13945		5·11218	3·14094		5·11127	3·14242	6
7		5·96741	3·65922		5·96635	3·66096		5·96528	3·66269		5·96422	3·66443		5·96315	3·66616	7
8		6·81990	4·18197		6·81868	4·18395		6·81747	4·18593		6·81625	4·18792		6·81503	4·18990	8
9		7·67239	4·70471		7·67102	4·70695		7·66965	4·70918		7·66828	4·71141		7·66691	4·71364	9
10	29	8·52488	5·22746	28	8·52336	5·22994	27	8·52184	5·23242	26	8·52031	5·23490	25	8·51879	5·23738	10
1	41	0·85096	0·52522	42	0·85081	0·52547	43	0·85065	0·52571	44	0·85050	0·52596	45	0·85035	0·52621	1
2		1·70192	1·05044		1·70162	1·05094		1·70131	1·05143		1·70101	1·05193		1·70070	1·05242	2
3		2·55289	1·57567		2·55243	1·57641		2·55197	1·57715		2·55151	1·57789		2·55105	1·57864	3
4		3·40385	2·10089		3·40324	2·10188		3·40263	2·10287		3·40202	2·10386		3·40140	2·10485	4
5		4·25482	2·62612		4·25405	2·62735		4·25329	2·62859		4·25252	2·62983		4·25176	2·63107	5
6		5·10578	3·15134		5·10486	3·15283		5·10394	3·15431		5·10303	3·15579		5·10211	3·15728	6
7		5·95674	3·67656		5·95567	3·67830		5·95460	3·68003		5·95353	3·68176		5·95246	3·68349	7
8		6·80771	4·20179		6·80648	4·20377		6·80526	4·20575		6·80404	4·20773		6·80281	4·20971	8
9		7·65867	4·72701		7·65729	4·72924		7·65592	4·73147		7·65454	4·73369		7·65316	4·73592	9
10	19	8·50964	5·25224	18	8·50811	5·25471	17	8·50658	5·25719	16	8·50505	5·25966	15	8·50352	5·26214	10
1	51	0·84943	0·52769	52	0·84927	0·52794	53	0·84912	0·52819	54	0·84897	0·52843	55	0·84881	0·52868	1
2		1·69886	1·05539		1·69855	1·05588		1·69825	1·05638		1·69794	1·05687		1·69763	1·05737	2
3		2·54829	1·58309		2·54783	1·58383		2·54737	1·58457		2·54691	1·58531		2·54645	1·58605	3
4		3·39773	2·11078		3·39711	2·11177		3·39650	2·11276		3·39588	2·11375		3·39527	2·11474	4
5		4·24716	2·63848		4·24639	2·63972		4·24562	2·64095		4·24485	2·64219		4·24409	2·64342	5
6		5·09659	3·16618		5·09567	3·16766		5·09475	3·16914		5·09383	3·17062		5·09290	3·17211	6
7		5·94602	3·69388		5·94495	3·69561		5·94387	3·69733		5·94280	3·69906		5·94172	3·70079	7
8		6·79546	4·22157		6·79423	4·22355		6·79300	4·22553		6·79177	4·22750		6·79054	4·22948	8
9		7·64489	4·74927		7·64351	4·75149		7·64212	4·75372		7·64074	4·75594		7·63936	4·75816	9
10	09	8·49432	5·27697	08	8·49279	5·27944	07	8·49125	5·28191	06	8·48971	5·28438	05	8·48818	5·28685	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	ep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·85626	0·51653	07	0·85611	0·51678	08	0·85596	0·51703	09	0·85581	0·51728	10	0·85566	0·51752	1
2		1·71253	1·03306		1·71223	1·03356		1·71193	1·03406		1·71163	1·03456		1·71133	1·03505	2
3		2·56880	1·54959		2·56835	1·55034		2·56789	1·55109		2·56744	1·55184		2·56699	1·55258	3
4		3·42506	2·06613		3·42446	2·06712		3·42386	2·06812		3·42326	2·06912		3·42266	2·07011	4
5		4·28133	2·58266		4·28058	2·58391		4·27983	2·58515		4·27908	2·58640		4·27832	2·58764	5
6		5·13760	3·09919		5·13670	3·10069		5·13579	3·10218		5·13489	3·10368		5·13399	3·10517	6
7		5·99386	3·61573		5·99281	3·61747		5·99176	3·61921		5·99071	3·62096		5·98965	3·62270	7
8		6·85013	4·13226		6·84893	4·13425		6·84773	4·13625		6·84652	4·13824		6·84532	4·14023	8
9		7·70640	4·64879		7·70505	4·65104		7·70369	4·65328		7·70234	4·65552		7·70098	4·65776	9
10	54	8·56267	5·16533	53	8·56116	5·16782	52	8·55966	5·17031	51	8·55816	5·17280	50	8·55665	5·17529	10
1	16	0·85476	0·51902	17	0·85461	0·51927	18	0·85445	0·51951	19	0·85430	0·51976	20	0·85415	0·52001	1
2		1·70952	1·03804		1·70922	1·03854		1·70891	1·03903		1·70861	1·03953		1·70831	1·04003	2
3		2·56428	1·55706		2·56383	1·55781		2·56337	1·55855		2·56292	1·55930		2·56246	1·56004	3
4		3·41904	2·07608		3·41844	2·07708		3·41783	2·07807		3·41723	2·07907		3·41662	2·08006	4
5		4·27380	2·59511		4·27305	2·59635		4·27229	2·59759		4·27153	2·59883		4·27078	2·60008	5
6		5·12856	3·11413		5·12766	3·11562		5·12675	3·11711		5·12584	3·11860		5·12493	3·12009	6
7		5·98332	3·63315		5·98227	3·63489		5·98121	3·63663		5·98015	3·63837		5·97909	3·64011	7
8		6·83808	4·15217		6·83688	4·15416		6·83567	4·15615		6·83446	4·15814		6·83325	4·16012	8
9		7·69284	4·67119		7·69149	4·67343		7·69012	4·67567		7·68876	4·67790		7·68740	4·68014	9
10	44	8·54761	5·19022	43	8·54610	5·19270	42	8·54458	5·19519	41	8·54307	5·19767	40	8·54156	5·20016	10
1	26	0·85324	0·52150	27	0·85309	0·52175	28	0·85294	0·52200	29	0·85279	0·52225	30	0·85264	0·52249	1
2		1·70649	1·04301		1·70619	1·04350		1·70588	1·04400		1·70558	1·04450		1·70528	1·04499	2
3		2·55974	1·56451		2·55928	1·56526		2·55883	1·56600		2·55837	1·56675		2·55792	1·56749	3
4		3·41299	2·08602		3·41238	2·08701		3·41177	2·08800		3·41116	2·08900		3·41056	2·08999	4
5		4·26623	2·60753		4·26547	2·60877		4·26472	2·61001		4·26396	2·61125		4·26320	2·61249	5
6		5·11948	3·12903		5·11857	3·13052		5·11766	3·13201		5·11675	3·13350		5·11584	3·13499	6
7		5·97273	3·65054		5·97167	3·65228		5·97060	3·65401		5·96954	3·65575		5·96848	3·65749	7
8		6·82598	4·17204		6·82476	4·17403		6·82355	4·17601		6·82233	4·17800		6·82112	4·17998	8
9		7·67922	4·69355		7·67786	4·69578		7·67649	4·69802		7·67512	4·70025		7·67376	4·70248	9
10	34	8·53247	5·21506	33	8·53095	5·21754	32	8·52944	5·22002	31	8·52792	5·22250	30	8·52640	5·22498	10
1	36	0·85172	0·52398	37	0·85157	0·52423	38	0·85142	0·52448	39	0·85126	0·52472	40	0·85111	0·52497	1
2		1·70345	1·04797		1·70314	1·04846		1·70284	1·04896		1·70253	1·04945		1·70223	1·04995	2
3		2·55518	1·57195		2·55472	1·57270		2·55426	1·57344		2·55380	1·57418		2·55335	1·57492	3
4		3·40690	2·09594		3·40629	2·09693		3·40568	2·09792		3·40507	2·09891		3·40446	2·09990	4
5		4·25863	2·61993		4·25787	2·62116		4·25711	2·62240		4·25634	2·62364		4·25558	2·62488	5
6		5·11036	3·14391		5·10944	3·14540		5·10853	3·14688		5·10761	3·14837		5·10670	3·14985	6
7		5·96208	3·66790		5·96102	3·66963		5·95995	3·67136		5·95888	3·67310		5·95781	3·67483	7
8		6·81381	4·19188		6·81259	4·19386		6·81137	4·19585		6·81015	4·19783		6·80893	4·19981	8
9		7·66554	4·71587		7·66417	4·71810		7·66279	4·72033		7·66142	4·72256		7·66005	4·72478	9
10	24	8·51727	5·23986	23	8·51574	5·24233	22	8·51422	5·24481	21	8·51269	5·24729	20	8·51116	5·24976	10
1	46	0·85019	0·52646	47	0·85004	0·52670	48	0·84989	0·52695	49	0·84973	0·52720	50	0·84958	0·52745	1
2		1·70039	1·05292		1·70009	1·05341		1·69978	1·05391		1·69947	1·05440		1·69917	1·05490	2
3		2·55059	1·57938		2·55013	1·58012		2·54967	1·58086		2·54921	1·58160		2·54875	1·58235	3
4		3·40079	2·10584		3·40018	2·10683		3·39957	2·10782		3·39895	2·10881		3·39834	2·10980	4
5		4·25099	2·63230		4·25023	2·63354		4·24946	2·63477		4·24869	2·63601		4·24793	2·63725	5
6		5·10119	3·15876		5·10027	3·16025		5·09935	3·16173		5·09843	3·16321		5·09751	3·16470	6
7		5·95139	3·68522		5·95032	3·68695		5·94924	3·68869		5·94817	3·69042		5·94710	3·69215	7
8		6·80159	4·21169		6·80036	4·21366		6·79914	4·21564		6·79791	4·21762		6·79668	4·21960	8
9		7·65179	4·73815		7·65041	4·74037		7·64903	4·74260		7·64765	4·74482		7·64627	4·74705	9
10	14	8·50199	5·26461	13	8·50046	5·26708	12	8·49892	5·26955	11	8·49739	5·27203	10	8·49586	5·27450	10
1	56	0·84866	0·52893	57	0·84851	0·52917	58	0·84835	0·52942	59	0·84820	0·52967	60	0·84804	0·52991	1
2		1·69732	1·05786		1·69702	1·05835		1·69671	1·05885		1·69640	1·05934		1·69609	1·05983	2
3		2·54599	1·58679		2·54553	1·58753		2·54506	1·58827		2·54460	1·58901		2·54414	1·58975	3
4		3·39465	2·11572		3·39404	2·11671		3·39342	2·11770		3·39280	2·11869		3·39219	2·11967	4
5		4·24332	2·64466		4·24255	2·64589		4·24178	2·64712		4·24101	2·64836		4·24024	2·64959	5
6		5·09198	3·17359		5·09106	3·17507		5·09013	3·17655		5·08921	3·17803		5·08828	3·17951	6
7		5·94064	3·70252		5·93957	3·70425		5·93849	3·70598		5·93741	3·70770		5·93633	3·70943	7
8		6·78931	4·23145		6·78808	4·23343		6·78684	4·23540		6·78561	4·23738		6·78438	4·23935	8
9		7·63797	4·76038		7·63659	4·76261		7·63520	4·76483		7·63381	4·76705		7·63243	4·76927	9
10	04	8·48664	5·28932	03	8·48510	5·29179	02	8·48356	5·29425	01	8·48202	5·29672	00	8·48048	5·29919	10
D	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

58 DEG.

8
2
6

DEG. 32.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·84789	0·53016	02	0·84773	0·53041	03	0·84758	0·53065	04	0·84743	0·53090	05	0·84727	0·53115	1
2		1·69578	1·06033		1·69547	1·06082		1·69517	1·06131		1·69486	1·06181		1·69455	1·06230	2
3		2·54368	1·59049		2·54321	1·59123		2·54275	1·59197		2·54229	1·59271		2·54182	1·59345	3
4		3·39157	2·12066		3·39095	2·12165		3·39034	2·12263		3·38972	2·12362		3·38910	2·12460	4
5		4·23947	2·65083		4·23869	2·65206		4·23792	2·65329		4·23715	2·65452		4·23638	2·65576	5
6		5·08736	3·18099		5·08643	3·18247		5·08551	3·18395		5·08458	3·18543		5·08365	3·18691	6
7		5·93525	3·71116		5·93417	3·71288		5·93309	3·71461		5·93201	3·71633		5·93093	3·71806	7
8		6·78315	4·24132		6·78191	4·24330		6·78068	4·24527		6·77944	4·24724		6·77821	4·24921	8
9		7·63104	4·77149		7·62965	4·77371		7·62826	4·77593		7·62687	4·77815		7·62548	4·78036	9
10	59	8·47894	5·30166	58	8·47739	5·30412	57	8·47585	5·30659	56	8·47431	5·30905	55	8·47276	5·31152	10
1	11	0·84634	0·53263	12	0·84619	0·53287	13	0·84603	0·53312	14	0 84588	0·53336	15	0·84572	0·53361	1
2		1·69269	1·06526		1·69238	1·06575		1·69207	1·06624		1·69176	1·06673		1·69145	1·06722	2
3		2·53904	1·59789		2·53857	1·59862		2·53811	1·59936		2·53764	1·60010		2·53718	1·60084	3
4		3·38539	2·13052		3·38477	2·13150		3·38415	2·13248		3·38353	2·13347		3·38291	2·13445	4
5		4·23174	2·66315		4·23096	2·66438		4·23019	2·66561		4·22941	2·66684		4·22863	2·66807	5
6		5·07808	3·19578		5·07715	3·19725		5·07622	3·19873		5·07529	3·20021		5·07436	3·20168	6
7		5·92443	3·72841		5·92335	3·73013		5·92226	3·73185		5·92118	3·73357		5·92009	3·73530	7
8		6·77078	4·26104		6·76954	4·26301		6·76830	4·26497		6·76706	4·26694		6·76582	4·26891	8
9		7·61713	4·79367		7·61573	4·79588		7·61434	4·79810		7·61294	4·80031		7·61155	4·80253	9
10	49	8·46348	5·32630	48	8·46193	5·32876	47	8·46038	5·33122	46	8·45883	5·33368	45	8·45727	5·33614	10
1	21	0·84479	0·53509	22	0·84464	0·53533	23	0·84448	0·53558	24	0·84432	0·53582	25	0·84417	0·53607	1
2		1·68959	1·07018		1·68928	1·07067		1·68896	1·07116		1·68865	1·07165		1·68834	1·07214	2
3		2·53438	1·60527		2·53392	1·60600		2·53345	1·60674		2·53298	1·60748		2·53251	1·60821	3
4		3·37918	2·14036		3·37856	2·14134		3·37793	2·14232		3·37731	2·14330		3·37668	2·14428	4
5		4·22397	2·67545		4·22320	2·67667		4·22241	2·67790		4·22164	2·67913		4·22086	2·68036	5
6		5·06877	3·21054		5·06784	3·21201		5·06690	3·21348		5·06596	3·21496		5·06503	3·21643	6
7		5·91356	3·74563		5·91248	3·74734		5·91138	3·74906		5·91029	3·75078		5·90920	3·75250	7
8		6·75836	4·28072		6·75712	4·28268		6·75587	4·28464		6·75462	4·28661		6·75337	4·28857	8
9		7·60315	4·81581		7·60176	4·81801		7·60035	4·82023		7·59895	4·82244		7·59754	4·82465	9
10	39	8·44795	5·35090	38	8·44640	5·35335	37	8·44483	5·35581	36	8·44328	5·35826	35	8·44172	5·36072	10
1	31	0·84323	0 53754	32	0·84307	0·53779	33	0·84292	0·53803	34	0·84276	0·53828	35	0·84260	0·53852	1
2		1·68647	1·07508		1·68615	1·07558		1·68584	1·07607		1·68553	1·07656		1·68521	1·07705	2
3		2·52970	1·61263		2·52923	1·61337		2·52876	1·61410		2·52829	1·61484		2·52782	1·61557	3
4		3·37294	2·15017		3·37231	2·15116		3·37168	2·15214		3·37106	2·15312		3·37043	2·15410	4
5		4 21617	2·68772		4·21539	2·68895		4·21461	2·69017		4·21382	2·69140		4·21304	2·69262	5
6		5·05941	3·22526		5·05847	3·22674		5 05753	3·22821		5·05659	3·22968		5·05565	3·23115	6
7		5·90264	3·76281		5·90155	3·76453		5·90045	3·76624		5·89935	3·76796		5·89826	3·76967	7
8		6·74588	4·30035		6·74462	4·30232		6·74337	4·30428		6·74212	4·30624		6·74087	4·30820	8
9		7·58911	4 83790		7·58770	4·84011		7·58629	4·84231		7·58489	4·84452		7·58348	4·84673	9
10	29	8·43235	5·37545	28	8·43078	5·37790	27	8·42922	5·38035	26	8·42765	5·38280	25	8·42609	5·38525	10
1	41	0·84166	0·53999	42	0·84151	0·54024	43	0·84135	0·54048	44	0·84119	0·54073	45	0·84103	0·54097	1
2		1·68333	1·07999		1·68302	1·08048		1·68270	1·08097		1·68239	1·08146		1·68207	1·08194	2
3		2·52500	1·61998		2·52453	1·62072		2·52406	1·62145		2·52358	1·62219		2·52311	1·62292	3
4		3·36667	2·15998		3·36604	2·16096		3·36541	2·16194		3·36478	2·16292		3·36415	2·16389	4
5		4·20834	2 69997		4·20755	2·70120		4·20676	2·70242		4·20598	2·70365		4·20519	2·70487	5
6		5·05000	3·23997		5 04906	3·24144		5·04812	3·24291		5·04717	3·24438		5·04623	3·24584	6
7		5·89167	3·77996		5·89057	3·78168		5·88947	3·78339		5·88837	3·78511		5·88727	3·78682	7
8		6·73334	4·31996		6·73208	4·32192		6·73082	4·32388		6·72957	4·32584		6·72831	4·32779	8
9		7·57501	4·85995		7·57359	4·86216		7·57218	4·86436		7·57076	4·86657		7·56935	4·86877	9
10	19	8·41668	5·39995	18	8·41510	5·40240	17	8·41353	5·40485	16	8·41196	5·40730	15	8·41039	5·40974	10
1	51	0·84009	0·54244	52	0·83993	0·54268	53	0·83977	0·54293	54	0·83962	0·54317	55	0·83946	0·54341	1
2		1·68018	1·08488		1·67987	1·08537		1·67955	1·08586		1 67924	1·08634		1·67892	1·08683	2
3		2·52028	1·62732		2·51980	1·62805		2·51933	1·62879		2·51886	1·62952		2·51838	1·63025	3
4		3·36037	2·16976		3·35974	2·17074		3 35911	2·17172		3·35848	2·17269		3·35784	2·17367	4
5		4·20046	2·71220		4·19967	2·71343		4·19888	2·71465		4·19810	2·71587		4·19730	2·71709	5
6		5·04056	3·25464		5·03961	3·25611		5·03866	3·25758		5·03772	3·25904		5·03677	3·26051	6
7		5·88065	3·79709		5·87954	3·79880		5·87844	3·80051		5·87734	3·80222		5·87623	3 80393	7
8		6·72074	4·33953		6·71948	4·34148		6·71822	4·34344		6·71696	4·34539		6·71569	4·34734	8
9		7·56084	4·88197		7·55942	4·88417		7·55800	4·88637		7·55658	4·88856		7·55515	4·89076	9
10	09	8·40093	5·42441	08	8·39935	5·42686	07	8·39777	5·42930	06	8·39620	5·43174	05	8·39461	5·43418	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 57.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·84712	0·53139	07	0·84696	0·53164	08	0·84681	0·53189	09	0·84665	0·53213	10	0·84650	0·53238	1
2		1·69424	1·06279		1·69393	1·06329		1·69362	1·06378		1·69331	1·06427		1·69300	1·06476	2
3		2·54136	1·59419		2·54090	1·59493		2·54043	1·59567		2·53997	1·59641		2·53950	1·59715	3
4		3·38848	2·12559		3·38786	2·12658		3·38725	2·12756		3·38663	2·12855		3·38601	2·12953	4
5		4·23561	2·65699		4·23483	2·65822		4·23406	2·65945		4·23329	2·66068		4·23251	2·66192	5
6		5·08273	3·18839		5·08180	3·18987		5·08087	3·19134		5·07994	3·19282		5·07901	3·19430	6
7		5·92985	3 71979		5·92877	3·72151		5·92768	3·72323		5·92660	3·72496		5·92552	3·72668	7
8		6·77697	4·25118		6·77573	4·25316		6·77450	4·25513		6·77326	4·25710		6·77202	4·25907	8
9		7·62409	4·78258		7·62270	4·78480		7·62131	4·78702		7·61992	4·78923		7·61852	4·79145	9
10	54	8·47122	5·31398	53	8·46967	5·31645	52	8·46812	5·31891	51	8·46658	5·32137	50	8·46503	5·32384	10
1	16	0·84557	0·53386	17	0·84541	0·53410	18	0·84526	0·53435	19	0·84510	0·53459	20	0·84495	0·53484	1
2		1·69114	1·06772		1·69083	1·06821		1·69052	1·06870		1·69021	1·06919		1·68990	1·06968	2
3		2·53671	1·60158		2·53625	1·60231		2·53578	1·60305		2·53531	1·60379		2·53485	1·60453	3
4		3·38229	2 13544		3·38166	2·13642		3·38104	2·13740		3·38042	2·13839		3·37980	2·13937	4
5		4·22786	2·66930		4·22708	2·67053		4·22630	2·67176		4·22553	2·67299		4·22475	2·67422	5
6		5·07343	3·20316		5·07250	3·20463		5 07157	3·20611		5·07063	3·20758		5·06970	3·20906	6
7		5 91900	3·73702		5·91792	3·73874		5 91683	3·74046		5·91574	3·74218		5·91465	3·74390	7
8		6·76458	4·27088		6·76333	4·27285		6·76209	4·27481		6·76085	4·27678		6·75960	4·27875	8
9		7·61015	4·80474		7·60875	4·80695		7·60735	4·80917		7·60595	4·81138		7·60455	4·81359	9
10	44	8·45572	5·33860	43	8·45417	5·34106	42	8·45261	5·34352	41	8·45106	5·34598	40	8·44950	5·34844	10
1	26	0·84401	0·53631	27	0·84386	0·53656	28	0·84370	0·53680	29	0·84354	0·53705	30	0·84339	0·53730	1
2		1·68803	1·07263		1·68772	1·07312		1·68740	1·07361		1·68709	1·07410		1·68678	1·07460	2
3		2·53204	1·60895		2·53158	1·60969		2·53111	1·61042		2·53064	1·61116		2·53017	1·61190	3
4		3·37606	2·14527		3·37544	2·14625		3·37481	2·14723		3·37419	2·14821		3·37356	2·14920	4
5		4·22008	2·68159		4·21930	2·68281		4·21852	2·68404		4·21773	2·68527		4·21695	2·68650	5
6		5·06409	3·21790		5·06316	3·21938		5·06222	3·22085		5·06128	3·22232		5·06034	3·22380	6
7		5·90811	3·75422		5·90702	3·75594		5·90592	3·75766		5·90483	3·75938		5·90373	3·76110	7
8		6·75212	4·29054		6·75088	4·29250		6·74963	4·29447		6·74838	4·29643		6·74713	4·29840	8
9		7·59614	4·82686		7·59474	4·82907		7·59333	4·83128		7·59192	4·83348		7·59052	4·83570	9
10	34	8·44016	5·36318	33	8·43860	5·36563	32	8·43704	5·36809	31	8·43547	5·37054	30	8·43391	5·37300	10
1	36	0·84245	0·53877	37	0·84229	0·53901	38	0·84213	0 53926	39	0·84198	0·53950	40	0·84182	0·53975	1
2		1·68490	1·07754		1·68459	1·07803		1·68427	1·07852		1·68396	1·07901		1·68364	1·07950	2
3		2·52735	1·61631		2·52688	1·61704		2·52641	1·61778		2·52594	1·61851		2·52547	1·61925	3
4		3·36980	2·15508		3·36918	2·15606		3·36855	2·15704		3·36792	2·15802		3·36729	2·15900	4
5		4·21226	2·69385		4·21147	2·69507		4·21069	2·69630		4·20991	2·69752		4·20912	2·69875	5
6		5·05471	3·23262		5·05377	3·23409		5·05283	3·23556		5·05189	3·23703		5·05094	3·23850	6
7		5·89716	3·77139		5·89606	3·77311		5·89497	3·77482		5·89387	3·77654		5·89277	3·77825	7
8		6·73961	4·31016		6·73836	4·31212		6·73711	4·31408		6·73585	4·31604		6·73459	4·31800	8
9		7·58207	4·84893		7·58066	4·85114		7·57924	4·85334		7·57783	4·85555		7·57642	4·85775	9
10	24	8·42452	5·38770	23	8·42295	5·39015	22	8·42138	5·39260	21	8·41982	5·39505	20	8·41825	5·39750	10
1	46	0·84088	0·54121	47	0·84072	0·54146	48	0·84056	0·54170	49	0·84040	0·54195	50	0·84025	0 54219	1
2		1·68176	1·08243		1·68144	1·08292		1·68113	1·08341		1·68081	1·08390		1·68050	1·08439	2
3		2·52264	1·62365		2·52217	1·62439		2·52169	1·62512		2·52122	1·62585		2·52075	1·62659	3
4		3·36352	2·16487		3·36289	2·16585		3·36226	2·16683		3·36163	2·16781		3·36100	2·16878	4
5		4·20440	2 70609		4·20362	2·70731		4·20283	2·70854		4·20204	2·70976		4 20125	2·71098	5
6		5·04528	3·24731		5·04434	3·24878		5·04339	3·25024		5·04245	3·25171		5·04150	3·25318	6
7		5·88617	3·78853		5·88506	3·79024		5·88396	3·79195		5·88286	3·79366		5·88175	3·79537	7
8		6·72705	4·32975		6·72579	4·33170		6·72453	4·33366		6·72327	4·33562		6·72201	4·33757	8
9		7·56793	4·87097		7·56651	4·87317		7·56509	4·87537		7·56368	4·87757		7·56226	4·87977	9
10	14	8·40881	5·41219	13	8·40724	5·41463	12	8·40566	5·41708	11	8·40409	5·41952	10	8·40251	5·42197	10
1	56	0·83930	0·54366	57	0·83914	0·54390	58	0·83898	0·54415	59	0·83882	0·54439	60	0·83867	0·54463	1
2		1·67860	1·08732		1 67829	1·08781		1·67797	1·08830		1·67765	1·08879		1·67734	1·08927	2
3		2·51791	1·63098		2·51743	1·63172		2·51696	1·63245		2·51648	1·63318		2·51601	1·63391	3
4		3·35721	2·17465		3·35658	2·17562		3 35594	2·17660		3·35531	2·17758		3·35468	2·17855	4
5		4·19651	2·71831		4·19572	2·71953		4·19493	2·72075		4·19414	2·72197		4·19335	2·72319	5
6		5·03582	3·26197		5·03487	3·26344		5·03392	3·26490		5·03297	3·26637		5·03202	3·26783	6
7		5·87512	3·80563		5·87401	3·80734		5·87291	3·80905		5·87180	3·81076		5·87069	3·81247	7
8		6·71442	4·34930		6·71316	4·35125		6·71189	4·35320		6·71063	4·35516		6·70936	4·35711	8
9		7·55373	4·89296		7·55230	4·89516		7·55088	4·89735		7·54946	4·89955		7·54803	4 90175	9
10	04	8·39303	5·43662	03	8·39145	5·43907	02	8·38987	5·44151	01	8·38829	5·44395	00	8·38670	5·44639	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

A

D.	M.	Lat.	Dep.	M	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·83851	0·54488	02	0·83835	0·54512	03	0·83819	0·54537	04	0·83803	0·54561	05	0·83787	0·54585	1
2		1·67702	1·08976		1·67670	1·09025		1·67639	1·09074		1·67607	1·09122		1·67575	1·09171	2
3		2·51553	1·63464		2·51506	1·63538		2·51458	1·63611		2·51410	1·63684		2·51363	1·63757	3
4		3·35404	2·17953		3·35341	2·18050		3·35278	2·18148		3·35214	2·18245		3·35151	2·18343	4
5		4·19256	2·72441		4·19176	2·72563		4·19097	2·72685		4·19018	2·72807		4·18938	2·72929	5
6		5·03107	3·26929		5·03012	3·27076		5·02917	3·27222		5·02821	3·27368		5·02726	3·27514	6
7		5·86958	3·81418		5·86847	3·81588		5·86736	3·81759		5·86625	3·81930		5·86514	3·82100	7
8		6·70809	4·35906		6·70682	4·36101		6·70556	4·36296		6·70429	4·36491		6·70302	4·36686	8
9		7·54660	4·90394		7·54518	4·90614		7·54375	4·90833		7·54232	4·91053		7·54089	4·91272	9
10	59	8·38512	5·44883	58	8·38353	5·45127	57	8·38195	5·45370	56	8·38036	5·45614	55	8·37877	5·45858	10
1	11	0·83692	0·54732	12	0·83676	0·54756	13	0·83660	0·54780	14	0·83644	0·54805	15	0·83628	0·54829	1
2		1·67384	1·09464		1·67352	1·09512		1·67321	1·09561		1·67289	1·09610		1·67257	1·09658	2
3		2·51077	1·64196		2·51029	1·64268		2·50981	1·64341		2·50933	1·64415		2·50885	1·64487	3
4		3·34769	2·18928		3·34705	2·19025		3·34642	2·19122		3·34578	2·19220		3·34514	2·19317	4
5		4·18461	2·73660		4·18382	2·73781		4·18302	2·73903		4·18222	2·74025		4·18143	2·74146	5
6		5·02154	3·28392		5·02058	3·28537		5·01963	3·28683		5·01867	3·28830		5·01771	3·28975	6
7		5·85846	3·83124		5·85735	3·83294		5·85623	3·83464		5·85511	3·83635		5·85400	3·83805	7
8		6·69538	4·37856		6·69411	4·38050		6·69284	4·38245		6·69156	4·38440		6·69028	4·38634	8
9		7·53231	4·92588		7·53087	4·92806		7·52944	4·93025		7·52801	4·93245		7·52657	4·93463	9
10	49	8·36923	5·47320	48	8·36764	5·47563	47	8·36605	5·47806	46	8·36445	5·48050	45	8·36286	5·48293	10
1	21	0·83532	0·54975	22	0·83516	0·54999	23	0·83500	0·55023	24	0·83484	0·55048	25	0·83468	0·55072	1
2		1·67065	1·09950		1·67033	1·09999		1·67001	1·10047		1·66969	1·10096		1·66937	1·10144	2
3		2·50598	1·64925		2·50550	1·64998		2·50502	1·65071		2·50454	1·65144		2·50406	1·65217	3
4		3·34131	2·19900		3·34067	2·19998		3·34003	2·20095		3·33939	2·20192		3·33875	2·20289	4
5		4·17664	2·74876		4·17584	2·74997		4·17504	2·75119		4·17423	2·75240		4·17343	2·75361	5
6		5·01196	3·29851		5·01100	3·29997		5·01004	3·30142		5·00908	3·30288		5·00812	3·30434	6
7		5·84729	3·84826		5·84617	3·84996		5·84505	3·85166		5·84393	3·85336		5·84281	3·85506	7
8		6·68262	4·39801		6·68134	4·39996		6·68006	4·40190		6·67878	4·40384		6·67750	4·40578	8
9		7·51795	4·94776		7·51651	4·94995		7·51507	4·95214		7·51363	4·95432		7·51218	4·95651	9
10	39	8·35328	5·49752	38	8·35168	5·49995	37	8·35008	5·50238	36	8·34848	5·50480	35	8·34687	5·50723	10
1	31	0·83372	0·55218	32	0·83356	0·55242	33	0·83340	0·55266	34	0·83324	0·55290	35	0·83308	0·55314	1
2		1·66745	1·10436		1·66712	1·10484		1·66680	1·10532		1·66648	1·10581		1·66616	1·10629	2
3		2·50117	1·65654		2·50069	1·65726		2·50021	1·65799		2·49972	1·65872		2·49924	1·65944	3
4		3·33490	2·20872		3·33425	2·20968		3·33361	2·21065		3·33297	2·21162		3·33232	2·21259	4
5		4·16862	2·76090		4·16782	2·76211		4·16701	2·76332		4·16621	2·76453		4·16541	2·76574	5
6		5·00235	3·31308		5·00138	3·31453		5·00042	3·31598		4·99945	3·31744		4·99849	3·31889	6
7		5·83607	3·86526		5·83495	3·86695		5·83382	3·86865		5·83270	3·87034		5·83157	3·87204	7
8		6·66980	4·41744		6·66851	4·41937		6·66723	4·42131		6·66594	4·42325		6·66465	4·42519	8
9		7·50352	4·96962		7·50208	4·97179		7·50063	4·97398		7·49918	4·97616		7·49773	4·97834	9
10	29	8·33725	5·52180	28	8·33564	5·52422	27	8·33403	5·52664	26	8·33243	5·52907	25	8·33082	5·53149	10
1	41	0·83211	0·55460	42	0·83195	0·55484	43	0·83179	0·55508	44	0·83163	0·55532	45	0·83147	0·55557	1
2		1·66423	1·10920		1·66390	1·10968		1·66358	1·11017		1·66326	1·11065		1·66294	1·11114	2
3		2·49634	1·66380		2·49586	1·66453		2·49537	1·66525		2·49489	1·66598		2·49441	1·66671	3
4		3·32846	2·21840		3·32781	2·21937		3·32717	2·22034		3·32652	2·22131		3·32588	2·22228	4
5		4·16057	2·77301		4·15977	2·77422		4·15896	2·77543		4·15815	2·77664		4·15735	2·77785	5
6		4·99269	3·32761		4·99172	3·32906		4·99075	3·33051		4·98978	3·33196		4·98882	3·33342	6
7		5·82480	3·88221		5·82367	3·88391		5·82254	3·88560		5·82141	3·88729		5·82029	3·88899	7
8		6·65692	4·43681		6·65563	4·43875		6·65434	4·44069		6·65304	4·44262		6·65176	4·44456	8
9		7·48903	4·99142		7·48758	4·99359		7·48613	4·99577		7·48468	4·99795		7·48323	5·00013	9
10	19	8·32115	5·54602	18	8·31954	5·54844	17	8·31792	5·55086	16	8·31631	5·55328	15	8·31470	5·55570	10
1	51	0·83049	0·55702	52	0·83033	0·55726	53	0·83017	0·55750	54	0·83001	0·55774	55	0·82985	0·55798	1
2		1·66099	1·11404		1·66067	1·11452		1·66034	1·11500		1·66002	1·11549		1·65970	1·11597	2
3		2·49149	1·67106		2·49100	1·67178		2·49052	1·67251		2·49003	1·67323		2·48955	1·67395	3
4		3·32199	2·22808		3·32134	2·22904		3·32069	2·23001		3·32004	2·23098		3·31940	2·23194	4
5		4·15249	2·78510		4·15168	2·78631		4·15087	2·78751		4·15006	2·78872		4·14925	2·78993	5
6		4·98299	3·34212		4·98201	3·34357		4·98104	3·34502		4·98007	3·34647		4·97910	3·34791	6
7		5·81349	3·89914		5·81235	3·90083		5·81122	3·90252		5·81008	3·90421		5·80895	3·90590	7
8		6·64398	4·45616		6·64269	4·45809		6·64139	4·46002		6·64009	4·46196		6·63880	4·46389	8
9		7·47448	5·01318		7·47302	5·01535		7·47157	5·01753		7·47011	5·01970		7·46865	5·02187	9
10	09	8·30498	5·57020	08	8·30336	5·57262	07	8·30174	5·57503	06	8·30012	5·57745	05	8·29850	5·57986	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 56.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·83771	0·54610	07	0·83756	0·54634	08	0·83740	0·54658	09	0·83724	0·54683	10	0·83708	0·54707	1
2		1·67543	1·09220		1·67512	1·09269		1·67480	1·09317		1·67448	1·09366		1·67416	1·09415	2
3		2·51315	1·63830		2·51268	1·63903		2·51220	1·63976		2·51172	1·64049		2·51124	1·64122	3
4		3·35087	2·18440		3·35024	2·18538		3·34960	2·18635		3·34896	2·18733		3·34833	2·18830	4
5		4·18859	2·73051		4·18780	2·73172		4·18700	2·73294		4·18620	2·73416		4·18541	2·73538	5
6		5·02631	3·27661		5·02536	3·27807		5·02440	3·27953		5·02345	3·28099		5·02249	3·28245	6
7		5·86403	3·82271		5·86292	3·82441		5·86180	3·82612		5·86069	3·82782		5·85957	3·82953	7
8		6·70174	4·36881		6·70048	4·37076		6·69920	4·37271		6·69793	4·37466		6·69666	4·37661	8
9		7·53946	4·91491		7·53804	4·91711		7·53660	4·91930		7·53517	4·92149		7·53374	4·92368	9
10	54	8·37718	5·46102	53	8·37560	5·46345	52	8·37401	5·46589	51	8·37241	5·46832	50	8·37082	5·47076	10
1	16	0·83612	0·54853	17	0·83596	0·54878	18	0·83580	0·54902	19	0·83564	0·54926	20	0·83548	0·54951	1
2		1·67225	1·09707		1·67193	1·09756		1·67161	1·09804		1·67129	1·09853		1·67097	1·09901	2
3		2·50837	1·64560		2·50790	1·64634		2·50742	1·64706		2·50694	1·64779		2·50646	1·64852	3
4		3·34450	2·19414		3·34386	2·19512		3·34322	2·19609		3·34259	2·19706		3·34195	2·19803	4
5		4·18063	2·74268		4·17983	2·74390		4·17903	2·74511		4·17823	2·74633		4·17743	2·74754	5
6		5·01675	3·29121		5·01580	3·29268		5·01484	3·29413		5·01388	3·29559		5·01292	3·29705	6
7		5·85288	3·83975		5·85176	3·84146		5·85065	3·84315		5·84953	3·84486		5·84841	3·84656	7
8		6·68901	4·38829		6·68773	4·39024		6·68645	4·39218		6·68518	4·39412		6·68390	4·39607	8
9		7·52513	4·93682		7·52370	4·93902		7·52226	4·94120		7·52082	4·94339		7·51939	4·94558	9
10	44	8·36126	5·48536	43	8·35967	5·48780	42	8·35807	5·49022	41	8·35647	5·49266	40	8·35487	5·49509	10
1	26	0·83452	0·55096	27	0·83436	0·55120	28	0·83420	0·55145	29	0·83404	0·55169	30	0·83388	0·55193	1
2		1·66905	1·10193		1·66873	1·10241		1·66841	1·10290		1·66809	1·10338		1·66777	1·10387	2
3		2·50358	1·65289		2·50310	1·65362		2·50262	1·65435		2·50213	1·65508		2·50165	1·65581	3
4		3·33811	2·20386		3·33746	2·20483		3·33682	2·20580		3·33618	2·20677		3·33554	2·20774	4
5		4·17263	2·75483		4·17183	2·75604		4·17103	2·75725		4·17023	2·75847		4·16942	2·75968	5
6		5·00716	3·30579		5·00620	3·30725		5·00524	3·30871		5·00427	3·31016		5·00331	3·31162	6
7		5·84169	3·85676		5·84057	3·85846		5·83944	3·86016		5·83832	3·86186		5·83720	3·86355	7
8		6·67622	4·40773		6·67493	4·40967		6·67365	4·41161		6·67237	4·41355		6·67108	4·41549	8
9		7·51074	4·95869		7·50930	4·96088		7·50786	4·96306		7·50641	4·96524		7·50497	4·96743	9
10	34	8·34527	5·50966	33	8·34367	5·51209	32	8·34206	5·51451	31	8·34046	5·51694	30	8·33885	5·51937	10
1	36	0·83292	0·55339	37	0·83276	0·55363	38	0·83259	0·55387	39	0·83243	0·55411	40	0·83227	0·55436	1
2		1·66584	1·10678		1·66552	1·10726		1·66519	1·10775		1·66487	1·10823		1·66455	1·10872	2
3		2·49876	1·66017		2·49828	1·66090		2·49779	1·66162		2·49731	1·66235		2·49683	1·66308	3
4		3·33168	2·21356		3·33104	2·21453		3·33039	2·21550		3·32975	2·21647		3·32910	2·21744	4
5		4·16460	2·76695		4·16380	2·76816		4·16299	2·76938		4·16219	2·77059		4·16138	2·77180	5
6		4·99752	3·32034		4·99656	3·32180		4·99559	3·32325		4·99462	3·32470		4·99366	3·32616	6
7		5·83044	3·87374		5·82932	3·87543		5·82819	3·87713		5·82706	3·87882		5·82593	3·88052	7
8		6·66336	4·42713		6·66208	4·42907		6·66079	4·43100		6·65950	4·43294		6·65821	4·43488	8
9		7·49629	4·98052		7·49484	4·98270		7·49339	4·98488		7·49194	4·98706		7·49049	4·98924	9
10	24	8·32921	5·53391	23	8·32760	5·53633	22	8·32599	5·53876	21	8·32438	5·54118	20	8·32276	5·54360	10
1	46	0·83130	0·55581	47	0·83114	0·55605	48	0·83098	0·55629	49	0·83082	0·55653	50	0·83066	0·55677	1
2		1·66261	1·11162		1·66228	1·11210		1·66196	1·11259		1·66164	1·11307		1·66132	1·11355	2
3		2·49392	1·66743		2·49343	1·66816		2·49295	1·66888		2·49246	1·66961		2·49198	1·67033	3
4		3·32523	2·22324		3·32458	2·22421		3·32393	2·22518		3·32329	2·22614		3·32264	2·22711	4
5		4·15654	2·77906		4·15573	2·78027		4·15492	2·78147		4·15411	2·78268		4·15330	2·78389	5
6		4·98784	3·33487		4·98687	3·33632		4·98590	3·33777		4·98493	3·33922		4·98396	3·34067	6
7		5·81915	3·89068		5·81802	3·89237		5·81689	3·89406		5·81575	3·89576		5·81462	3·89745	7
8		6·65046	4·44649		6·64917	4·44843		6·64787	4·45036		6·64658	4·45229		6·64528	4·45423	8
9		7·48177	5·00230		7·48031	5·00448		7·47886	5·00666		7·47740	5·00883		7·47594	5·01101	9
10	14	8·31308	5·55812	13	8·31146	5·56054	12	8·30984	5·56295	11	8·30822	5·56537	10	8·30660	5·56779	10
1	56	0·82968	0·55822	57	0·82952	0·55846	58	0·82936	0·55871	59	0·82920	0·55895	60	0·82903	0·55919	1
2		1·65937	1·11645		1·65905	1·11693		1·65872	1·11742		1·65840	1·11790		1·65807	1·11838	2
3		2·48906	1·67468		2·48857	1·67540		2·48808	1·67613		2·48760	1·67685		2·48711	1·67757	3
4		3·31875	2·23291		3·31810	2·23387		3·31745	2·23484		3·31680	2·23580		3·31615	2·23677	4
5		4·14843	2·79114		4·14762	2·79234		4·14681	2·79355		4·14600	2·79475		4·14518	2·79596	5
6		4·97812	3·34936		4·97715	3·35081		4·97617	3·35226		4·97520	3·35371		4·97422	3·35515	6
7		5·80781	3·90759		5·80667	3·90928		5·80553	3·91097		5·80440	3·91266		5·80326	3·91435	7
8		6·63750	4·46582		6·63620	4·46775		6·63490	4·46968		6·63360	4·47161		6·63230	4·47354	8
9		7·46718	5·02405		7·46572	5·02622		7·46426	5·02839		7·46280	5·03056		7·46133	5·03273	9
10	04	8·29687	5·58228	03	8·29525	5·58469	02	8·29362	5·58710	01	8·29200	5·58951	00	8.29037	5·59193	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

56 DEG.

DEG. 34.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·82887	0·55943	02	0·82871	0·55967	03	0·82854	0·55991	04	0·82838	0·56015	05	0·82822	0·56039	1
2		1·65774	1·11886		1·65742	1·11935		1·65709	1·11983		1·65677	1·12031		1·65644	1·12079	2
3		2·48662	1·67830		2·48613	1·67902		2·48564	1·67974		2·48515	1·68047		2·48467	1·68119	3
4		3·31549	2·23773		3·31484	2·23870		3·31419	2·23966		3·31354	2·24062		3·31289	2·24159	4
5		4·14437	2·79717		4·14356	2·79837		4·14274	2·79958		4·14193	2·80078		4·14111	2·80199	5
6		4·97324	3·35660		4·97227	3·35805		4·97129	3·35949		4·97031	3·36094		4·96934	3·36238	6
7		5·80212	3·91603		5·80098	3·91772		5·79984	3·91941		5·79870	3·92110		5·79756	3·92278	7
8		6·63099	4·47547		6·62969	4·47740		6·62839	4·47932		6·62709	4·48125		6·62578	4·48318	8
9		7·45987	5·03490		7·45840	5·03707		7·45694	5·03924		7·45547	5·04141		7·45401	5·04358	9
10	59	8·28875	5·59434	58	8·28712	5·59675	57	8·28549	5·59916	56	8·28386	5·60157	55	8·28223	5·60398	10
1	11	0·82724	0·56184	12	0·82708	0·56208	13	0·82691	0·56232	14	0·82675	0·56256	15	0·82659	0·56280	1
2		1·65448	1·12368		1·65416	1·12416		1·65383	1·12464		1·65350	1·12512		1·65318	1·12560	2
3		2·48173	1·68552		2·48124	1·68625		2·48075	1·68697		2·48026	1·68769		2·47977	1·68841	3
4		3·30897	2·24737		3·30832	2·24833		3·30766	2·24929		3·30701	2·25025		3·30636	2·25121	4
5		4·13622	2·80921		4·13540	2·81041		4·13458	2·81162		4·13376	2·81282		4·13295	2·81402	5
6		4·96346	3·37105		4·96248	3·37250		4·96150	3·37394		4·96052	3·37538		4·95954	3·37682	6
7		5·79070	3·93289		5·78956	3·93458		5·78841	3·93626		5·78727	3·93795		5·78613	3·93963	7
8		6·61795	4·49474		6·61664	4·49666		6·61533	4·49859		6·61402	4·50051		6·61272	4·50243	8
9		7·44519	5·05658		7·44372	5·05875		7·44225	5·06091		7·44078	5·06308		7·43931	5·06524	9
10	49	8·27244	5·61842	48	8·27080	5·62083	47	8·26917	5·62324	46	8·26753	5·62564	45	8·26590	5·62805	10
1	21	0·82560	0·56424	22	0·82544	0·56448	23	0·82527	0·56472	24	0·82511	0·56496	25	0·82494	0·56520	1
2		1·65121	1·12849		1·65088	1·12897		1·65055	1·12945		1·65022	1·12993		1·64989	1·13041	2
3		2·47681	1·69274		2·47632	1·69346		2·47583	1·69418		2·47534	1·69490		2·47484	1·69562	3
4		3·30242	2·25698		3·30176	2·25794		3·30111	2·25890		3·30045	2·25986		3·29979	2·26082	4
5		4·12803	2·82123		4·12721	2·82243		4·12638	2·82363		4·12556	2·82483		4·12474	2·82603	5
6		4·95363	3·38548		4·95265	3·38692		4·95166	3·38836		4·95068	3·38980		4·94969	3·39124	6
7		5·77924	3·94972		5·77809	3·95140		5·77694	3·95308		5·77579	3·95476		5·77464	3·95644	7
8		6·60484	4·51397		6·60353	4·51589		6·60222	4·51781		6·60090	4·51973		6·59959	4·52165	8
9		7·43045	5·07822		7·42897	5·08038		7·42750	5·08254		7·42602	5·08470		7·42454	5·08686	9
10	39	8·25606	5·64246	38	8·25442	5·64487	37	8·25277	5·64727	36	8·25113	5·64967	35	8·24949	5·65207	10
1	31	0·82396	0·56664	32	0·82379	0·56688	33	0·82363	0·56712	34	0·82346	0·56736	35	0·82330	0·56760	1
2		1·64792	1·13329		1·64759	1·13377		1·64726	1·13425		1·64693	1·13472		1·64660	1·13520	2
3		2·47188	1·69993		2·47138	1·70065		2·47089	1·70137		2·47039	1·70209		2·46990	1·70281	3
4		3·29584	2·26658		3·29518	2·26754		3·29452	2·26850		3·29386	2·26945		3·29320	2·27041	4
5		4·11980	2·83322		4·11898	2·83442		4·11815	2·83562		4·11733	2·83682		4·11650	2·83802	5
6		4·94376	3·39987		4·94277	3·40131		4·94178	3·40275		4·94079	3·40418		4·93980	3·40562	6
7		5·76772	3·96652		5·76657	3·96819		5·76542	3·96987		5·76426	3·97155		5·76311	3·97323	7
8		6·59169	4·53316		6·59037	4·53508		6·58905	4·53700		6·58773	4·53891		6·58641	4·54083	8
9		7·41565	5·09981		7·41416	5·10197		7·41268	5·10412		7·41119	5·10628		7·40971	5·10843	9
10	29	8·23961	5·66646	28	8·23796	5·66885	27	8·23631	5·67125	26	8·23466	5·67364	25	8·23301	5·67604	10
1	41	0·82231	0·56904	42	0·82214	0·56927	43	0·82197	0·56951	44	0·82181	0·56975	45	0·82164	0·56999	1
2		1·64462	1·13808		1·64428	1·13855		1·64395	1·13903		1·64362	1·13951		1·64329	1·13999	2
3		2·46693	1·70712		2·46643	1·70783		2·46593	1·70855		2·46543	1·70927		2·46494	1·70999	3
4		3·28924	2·27616		3·28857	2·27711		3·28791	2·27807		3·28725	2·27903		3·28658	2·27998	4
5		4·11155	2·84520		4·11072	2·84639		4·10989	2·84759		4·10906	2·84878		4·10823	2·84998	5
6		4·93386	3·41424		4·93286	3·41567		4·93187	3·41711		4·93087	3·41854		4·92988	3·41998	6
7		5·75617	3·98328		5·75500	3·98495		5·75384	3·98663		5·75268	3·98830		5·75152	3·98997	7
8		6·57848	4·55232		6·57715	4·55423		6·57582	4·55614		6·57450	4·55806		6·57317	4·55997	8
9		7·40079	5·12136		7·39929	5·12351		7·39780	5·12566		7·39631	5·12781		7·39482	5·12997	9
10	19	8·22310	5·69040	18	8·22144	5·69279	17	8·21978	5·69518	16	8·21812	5·69757	15	8·21647	5·69996	10
1	51	0·82065	0·57143	52	0·82048	0·57166	53	0·82031	0·57190	54	0·82015	0·57214	55	0·81998	0·57238	1
2		1·64130	1·14286		1·64096	1·14333		1·64063	1·14381		1·64030	1·14429		1·63997	1·14476	2
3		2·46195	1·71429		2·46145	1·71500		2·46095	1·71572		2·46045	1·71643		2·45995	1·71715	3
4		3·28260	2·28572		3·28193	2·28667		3·28127	2·28762		3·28060	2·28858		3·27994	2·28953	4
5		4·10325	2·85715		4·10242	2·85834		4·10159	2·85953		4·10076	2·86073		4·09992	2·86192	5
6		4·92390	3·42858		4·92290	3·43001		4·92190	3·43144		4·92091	3·43287		4·91991	3·43430	6
7		5·74455	4·00001		5·74339	4·00168		5·74222	4·00335		5·74106	4·00502		5·73989	4·00669	7
8		6·56520	4·57144		6·56387	4·57334		6·56254	4·57525		6·56121	4·57716		6·55988	4·57907	8
9		7·38585	5·14287		7·38436	5·14501		7·38286	5·14716		7·38136	5·14931		7·37986	5·15145	9
10	09	8·20651	5·71430	08	8·20484	5·71668	07	8·20318	5·71907	06	8·20152	5·72146	05	8·19985	5·72384	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 55.

34 DEG. DIFFERENCE OF LATITUDE AND DEPARTURE.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·82806	0·56063	07	0·82789	0·56088	08	0·82773	0·56112	09	0·82757	0·56136	10	0·82740	0·56160	1
2		1·65612	1·12127		1·65579	1·12176		1·65546	1·12224		1·65514	1·12272		1·65481	1·12320	2
3		2·48418	1·68191		2·48369	1·68264		2·48320	1·68336		2·48271	1·68408		2·48222	1·68480	3
4		3·31224	2·24255		3·31158	2·24352		3·31093	2·24448		3·31028	2·24544		3·30962	2·24640	4
5		4·14030	2·80319		4·13948	2·80440		4·13867	2·80560		4·13785	2·80680		4·13703	2·80801	5
6		4·96836	3·36383		4·96738	3·36528		4·96640	3·36672		4·96542	3·36816		4·96444	3·36961	6
7		5·79642	3·92447		5·79528	3·92616		5·79418	3·92784		5·79299	3·92952		5·79185	3·93121	7
8		6·62448	4·48511		6·62317	4·48704		6·62187	4·48896		6·62056	4·49089		6·61925	4·49281	8
9		7·45254	5·04575		7·45107	5·04792		7·44960	5·05008		7·44813	5·05225		7·44666	5·05441	9
10	54	8·28060	5·60639	53	8·27897	5·60880	52	8·27734	5·61120	51	8·27570	5·61361	50	8·27407	5·61602	10
1	16	0·82642	0·56304	17	0·82626	0·56328	18	0·82609	0·56352	19	0·82593	0·56376	20	0·82577	0·56400	1
2		1·65285	1·12609		1·65252	1·12657		1·65219	1·12705		1·65186	1·12753		1·65154	1·12801	2
3		2·47927	1·68913		2·47878	1·68985		2·47829	1·69057		2·47780	1·69129		2·47731	1·69201	3
4		3·30570	2·25218		3·30504	2·25314		3·30439	2·25410		3·30373	2·25506		3·30308	2·25602	4
5		4·13213	2·81522		4·13131	2·81642		4·13049	2·81763		4·12967	2·81883		4·12885	2·82003	5
6		4·95855	3·37827		4·95757	3·37971		4·95658	3·38115		4·95560	3·38259		4.95462	3·38403	6
7		5·78498	3·94131		5·78383	3·94299		5·78268	3·94468		5·78154	3·94636		5·78039	3·94804	7
8		6·61140	4·50436		6·61009	4·50628		6·60878	4·50820		6·60747	4·51013		6·60616	4·51205	8
9		7·43783	5·06740		7·43635	5·06957		7·43488	5·07173		7·43340	5·07389		7·43193	5·07605	9
10	44	8·26426	5·63045	43	8·26262	5·63285	42	8·26098	5·63526	41	8·25934	5·63766	40	8·25770	5·64006	10
1	26	0·82478	0·56544	27	0·82462	0·56568	28	0·82445	0·56592	29	0·82429	0·56616	30	0·82412	0·56640	1
2		1·64956	1·13089		1·64924	1·13137		1·64891	1·13185		1·64858	1·13233		1·64825	1·13281	2
3		2·47435	1·69634		2·47386	1·69706		2·47336	1·69778		2·47287	1·69849		2·47237	1·69921	3
4		3·29913	2·26178		3·29848	2·26274		3·29782	2·26370		3·29716	2·26466		3·29650	2·26562	4
5		4·12392	2·82723		4·12310	2·82843		4·12227	2·82963		4·12145	2·83083		4·12063	2·83203	5
6		4·94870	3·39268		4·94772	3·39412		4·94673	3·39556		4·94574	3·39699		4·94475	3·39843	6
7		5·77349	3·95812		5·77234	3·95980		5·77118	3·96148		5·77003	3·96316		5·76888	3·96484	7
8		6·59827	4·52357		6·59696	4·52549		6·59564	4·52741		6·59432	4·52933		6·59300	4·53124	8
9		7·42306	5·08902		7·42158	5·09118		7·42010	5·09334		7·41861	5·09549		7·41713	5·09765	9
10	34	8·24784	5·65447	33	8·24620	5·65686	32	8·24455	5·65926	31	8·24291	5·66166	30	8·24126	5·66406	10
1	36	0·82313	0·56784	37	0·82297	0·56808	38	0·82280	0·56832	39	0·82264	0·56856	40	0·82247	0·56880	1
2		1·64627	1·13568		1·64594	1·13616		1·64561	1·13664		1·64528	1·13712		1·64495	1·13760	2
3		2·46940	1·70353		2·46891	1·70424		2·46841	1·70496		2·46792	1·70568		2·46742	1·70640	3
4		3·29254	2·27137		3·29188	2·27233		3·29122	2·27329		3·29056	2·27424		3·28990	2·27520	4
5		4·11568	2·83921		4·11485	2·84041		4·11403	2·84161		4·11320	2·84281		4·11237	2·84400	5
6		4·93881	3·40706		4·93782	3·40849		4·93683	3·40993		4·93584	3·41137		4·93485	3·41280	6
7		5·76195	3·97490		5·76079	3·97658		5·75964	3·97825		5·75848	3·97993		5·75732	3·98160	7
8		6·58509	4·54274		6·58376	4·54466		6·58244	4·54658		6·58112	4·54849		6·57980	4·55040	8
9		7·40822	5·11059		7·40674	5·11274		7·40525	5·11490		7·40376	5·11705		7·40227	5·11920	9
10	24	8·23136	5·67843	23	8·22971	5·68083	22	8·22806	5·68322	21	8·22640	5·68562	20	8·22475	5·68801	10
1	46	0·82148	0·57023	47	0·82131	0·57047	48	0·82114	0·57071	49	0·82098	0·57095	50	0·82081	0·57119	1
2		1·64296	1·14047		1·64263	1·14094		1·64229	1·14142		1·64196	1·14190		1·64163	1·14238	2
3		2·46444	1·71070		2·46394	1·71142		2·46344	1·71214		2·46294	1·71285		2·46245	1·71357	3
4		3·28592	2·28094		3·28526	2·28189		3·28459	2·28285		3·28393	2·28380		3·28326	2·28476	4
5		4·10740	2·85117		4·10657	2·85237		4·10574	2·85356		4·10491	2·85476		4·10408	2·85595	5
6		4·92888	3·42141		4·92789	3·42284		4·92689	3·42428		4·92589	3·42571		4·92490	3·42714	6
7		5·75036	3·99164		5·74920	3·99332		5·74804	3·99499		5·74688	3·99666		5·74571	3·99833	7
8		6·57184	4·56188		6·57052	4·56379		6·56919	4·56570		6·56786	4·56761		6·56653	4·56952	8
9		7·39332	5·13212		7·39183	5·13427		7·39034	5·13642		7·38884	5·13857		7·38735	5·14072	9
10	14	8·21481	5·70235	13	8·21315	5·70474	12	8·21149	5·70713	11	8·20983	5·70952	10	8·20817	5·71191	10
1	56	0·81981	0·57262	57	0·81965	0·57286	58	0·81948	0·57310	59	0·81931	0·57333	60	0·81915	0·57357	1
2		1·63963	1·14524		1·63930	1·14572		1·63897	1·14620		1·63863	1·14667		1·63830	1·14715	2
3		2·45945	1·71786		2·45895	1·71858		2·45845	1·71930		2·45795	1·72001		2·45745	1·72072	3
4		3·27927	2·29049		3·27860	2·29144		3·27794	2·29240		3·27727	2·29335		3·27660	2·29430	4
5		4·09909	2·86311		4·09826	2·86430		4·09742	2·86550		4·09659	2·86669		4·09576	2·86788	5
6		4·91891	3·43573		4·91791	3·43716		4·91691	3·43860		4·91591	3·44002		4·91491	3·44145	6
7		5·73873	4·00836		5·73756	4·01002		5·73639	4·01170		5·73523	4·01336		5·73406	4·01503	7
8		6·55855	4·58098		6·55721	4·58289		6·55588	4·58480		6·55455	4·58670		6·55321	4·58861	8
9		7·37837	5·15360		7·37687	5·15575		7·37537	5·15790		7·37387	5·16004		7·37236	5·16218	9
10	04	8·19819	5·72623	03	8·19652	5·72861	02	8·19485	5·73100	01	8·19319	5·73338	00	8·19152	5·73576	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

8
6

55 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·81898	0·57381	02	0·81881	0·57405	03	0·81865	0·57429	04	0·81848	0·57452	05	0·81831	0·57476	1
2		1·63797	1·14762		1·63763	1·14810		1·63730	1·14858		1·63696	1·14905		1·63663	1·14953	2
3		2·45695	1·72144		2·45645	1·72215		2·45595	1·72287		2·45545	1·72358		2·45495	1·72430	3
4		3·27594	2·29525		3·27527	2·29621		3·27460	2·29716		3·27393	2 29811		3·27326	2·29906	4
5		4·09492	2·86907		4·09409	2·87026		4·09325	2·87145		4·09242	2·87264		4·09158	2·87383	5
6		4·91391	3·44288		4·91290	3·44431		4·91190	3·44574		4·91090	3·44717		4·90990	3·44860	6
7		5·73289	4·01670		5·73172	4·01837		5·73055	4·02003		5·72938	4·02170		5·72821	4·02337	7
8		6·55188	4·59051		6·55054	4·59242		6·54920	4·59432		6·54787	4·59623		6·54653	4·59813	8
9		7·37086	5·16433		7·36936	5·16647		7·36786	5·16861		7·36635	5·17076		7·36485	5·17290	9
10	59	8·18985	5·73814	58	8·18818	5·74053	57	8·18651	5·74291	56	8·18484	5·74529	55	8·18317	5·74767	10
1	11	0·81731	0·57619	12	0·81714	0·57643	13	0·81697	0·57667	14	0·81680	0·57690	15	0·81664	0·57714	1
2		1·63462	1·15238		1·63428	1·15286		1·63395	1·15334		1·63361	1·15381		1·63328	1·15429	2
3		2·45193	1·72858		2·45143	1·72929		2·45093	1·73001		2·45042	1·73072		2·44992	1·73143	3
4		3·26925	2·30477		3·26857	2·30572		3·26790	2·30668		3·26723	2·30763		3·26656	2·30858	4
5		4·08656	2·88097		4·08572	2 88216		4·08488	2 88335		4·08404	2·88453		4·08320	2·88572	5
6		4·90387	3·45716		4·90286	3·45859		4·90186	3·46002		4·90085	3·46144		4·89984	3·46287	6
7		5·72118	4·03336		5·72001	4·03502		5·71884	4·03669		5·71766	4·03835		5·71649	4·04001	7
8		6·53850	4·60955		6·53715	4·61145		6·53581	4·61336		6·53447	4·61526		6·53313	4·61716	8
9		7·35581	5·18575		7·35430	5·18789		7·35279	5·19003		7·35128	5·19216		7·34977	5·19430	9
10	49	8·17312	5·76194	48	8·17145	5·76432	47	8·16977	5·76670	46	8·16809	5·76907	45	8·16641	5·77145	10
1	21	0·81563	0·57856	22	0·81546	0·57880	23	0·81529	0·57904	24	0·81512	0·57928	25	0·81495	0·57951	1
2		1·63126	1·15713		1·63092	1·15761		1·63059	1·15808		1·63025	1·15856		1·62991	1·15903	2
3		2·44689	1·73570		2·44639	1·73642		2·44588	1·73713		2·44538	1·73784		2·44487	1·73855	3
4		3·26253	2·31427		3·26185	2·31522		3·26118	2·31617		3·26051	2·31712		3·25983	2·31807	4
5		4·07816	2·89284		4·07732	2·89403		4·07648	2·89522		4·07563	2·89640		4·07479	2·89759	5
6		4·89379	3·47141		4·89278	3·47284		4·89177	3·47426		4·89076	3·47568		4·88975	3·47710	6
7		5·70943	4·04998		5·70825	4·05164		5·70707	4·05330		5·70589	4·05496		5·70471	4·05662	7
8		6·52506	4·62855		6·52371	4·63045		6·52237	4·63235		6·52102	4·63424		6·51967	4·63614	8
9		7·34069	5·20712		7·33918	5·20926		7·33766	5·21139		7·33615	5·21353		7·33463	5·21566	9
10	39	8·15633	5·78569	38	8·15464	5·78807	37	8·15296	5·79044	36	8·15127	5·79281	35	8·14959	5·79518	10
1	31	0·81394	0·58094	32	0·81377	0·58117	33	0·81360	0·58141	34	0·81343	0·58165	35	0·81327	0·58188	1
2		1·62789	1·16188		1·62755	1·16235		1·62721	1·16282		1·62687	1·16330		1·62654	1·16377	2
3		2·44183	1·74282		2·44133	1·74352		2·44082	1·74423		2·44031	1·74495		2·43981	1·74565	3
4		3·25578	2·32376		3·25511	2·32470		3·25443	2·32565		3·25375	2·32660		3·25308	2·32754	4
5		4·06973	2·90470		4·06888	2·90588		4·06804	2·90706		4·06719	2·90825		4·06635	2·90943	5
6		4·88367	3·48564		4·88266	3·48705		4·88165	3·48848		4·88063	3·48990		4·87962	3·49131	6
7		5·69762	4·06658		5·69644	4·06823		5·69525	4·06989		5·69407	4·07155		5·69289	4·07320	7
8		6·51157	4·64752		6·51022	4·64941		6·50886	4·65130		6·50751	4·65320		6·50616	4·65509	8
9		7·32551	5·22846		7·32399	5·23058		7·32247	5·23271		7·32095	5·23485		7·31943	5·23697	9
10	29	8·13946	5·80940	28	8·13777	5·81176	27	8·13608	5·81413	26	8·13439	5·81650	25	8·13270	5·81886	10
1	41	0·81225	0·58330	42	0·81208	0·58354	43	0·81191	0·58377	44	0·81174	0·58401	45	0·81157	0·58425	1
2		1·62450	1·16661		1·62416	1·16708		1·62382	1·16755		1·62348	1·16802		1·62314	1·16850	2
3		2·43675	1·74991		2·43625	1·75062		2·43574	1·75133		2·43523	1·75204		2·43472	1·75275	3
4		3·24901	2·33322		3·24833	2·33416		3·24765	2·33510		3·24697	2·33605		3·24629	2·33700	4
5		4·06126	2·91652		4·06041	2·91770		4·05956	2·91888		4·05872	2·92006		4·05787	2·92125	5
6		4·87351	3·49983		4·87250	3·50124		4·87148	3·50266		4·87046	3·50408		4·86944	3·50550	6
7		5·68577	4·08313		5·68458	4·08478		5·68339	4·08644		5·68220	4·08809		5·68101	4·08975	7
8		6·49802	4·66644		6·49666	4·66832		6·49530	4·67021		6·49395	4·67210		6·49259	4·67400	8
9		7·31027	5·24974		7·30875	5·25187		7·30722	5·25399		7·30569	5·25612		7·30416	5·25825	9
10	19	8·12253	5·83305	18	8·12083	5·83541	17	8·11913	5·83777	16	8·11744	5·84013	15	8·11574	5·84250	10
1	51	0·81055	0·58566	52	0·81038	0·58590	53	0·81021	0·58613	54	0·81004	0·58637	55	0·80987	0·58660	1
2		1·62110	1·17133		1·62076	1·17180		1·62042	1·17227		1·62008	1·17274		1·61974	1·17321	2
3		2·43165	1·75699		2·43114	1·75770		2·43063	1·75841		2·43012	1·75911		2·42961	1·75982	3
4		3·24221	2·34266		3·24153	2·34360		3·24084	2·34454		3·24016	2·34548		3·23948	2·34643	4
5		4·05276	2·92832		4·05191	2·92950		4·05106	2·93068		4·05020	2·93186		4·04935	2·93304	5
6		4·86331	3·51399		4·86229	3·51540		4·86127	3·51682		4·86024	3·51823		4·85922	3·51964	6
7		5·67387	4·09965		5·67267	4·10130		5·67148	4·10295		5·67029	4 10460		5·66909	4·10625	7
8		6·48442	4·68532		6·48306	4·68720		6·48169	4·68909		6·48033	4·69097		6·47896	4·69286	8
9		7·29497	5·27098		7·29344	5·27310		7·29190	5·27523		7·29037	5·27735		7·28883	5·27947	9
10	09	8·10553	5·85665	08	8·10382	5·85901	07	8·10212	5·86136	06	8·10041	5 86372	05	8·09871	5·86608	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.	
1	06	0·81815	0·57500	07	0·81798	0·57524	08	0·81781	0·57548	09	0·81764	0·57571	10	0·81748	0·57595	1	
2		1·63630	1·15001		1·63596	1·15048		1·63563	1·15096		1·63529	1·15143		1·63496	1·15191	2	
3		2·45445	1·72501		2·45394	1·72572		2·45344	1·72644		2·45294	1·72715		2·45244	1·72787	3	
4		3·27260	2·30002		3·27192	2·30097		3·27126	2·30192		3·27059	2·30287		3·26992	2·30382	4	
5		4·09075	2·87502		4·08991	2·87621		4·08907	2·87740		4·08823	2·87859		4·08740	2·87978	5	
6		4·90890	3·45003		4·90789	3·45145		4·90689	3·45288		4·90588	3·45431		4·90488	3·45574	6	
7		5·72705	4·02503		5·72587	4·02670		5·72470	4·02836		5·72353	4·03003		5·72236	4·03169	7	
8		6·54520	4·60004		6·54385	4·60194		6·54252	4·60384		6·54118	4·60575		6·53984	4·60765	8	
9		7·36335	5·17504		7·36184	5·17718		7·36033	5·17932		7·35882	5·18147		7·35732	5·18361	9	
10	54	8·18150	5·75005	53	8·17982	5·75243	52	8·17815	5·75481	51	8·17647	5·75719	50	8·17480	5·75956	10	
1	16	0·81647	0·57738	17	0·81630	0·57762	18	0·81613	0·57785	19	0·81596	0·57809	20	0·81580	0·57833	1	
2		1·63294	1·15476		1·63261	1·15524		1·63227	1·15571		1·63193	1·15619		1·63160	1·15666	2	
3		2·44942	1·73214		2·44891	1·73286		2·44841	1·73357		2·44790	1·73428		2·44740	1·73499	3	
4		3·26589	2·30953		3·26522	2·31048		3·26455	2·31143		3·26387	2·31238		3·26320	2·31332	4	
5		4·08236	2·88691		4·08152	2·88810		4·08068	2·88928		4·07984	2·89047		4·07900	2·89166	5	
6		4·89884	3·46429		4·89783	3·46572		4·89682	3·46714		4·89581	3·46857		4·89480	3·46999	6	
7		5·71531	4·04167		5·71413	4·04334		5·71296	4·04500		5·71178	4·04666		5·71060	4·04832	7	
8		6·53178	4·61906		6·53044	4·62096		6·52910	4·62286		6·52775	4·62476		6·52641	4·62665	8	
9		7·34826	5·19644		7·34675	5·19858		7·34523	5·20071		7·34372	5·20285		7·34221	5·20499	9	
10	44	8·16473	5·77382	43	8·16305	5·77620	42	8·16137	5·77857	41	8·15969	5·78095	40	8·15801	5·78332	10	
1	26	0·81479	0·57975	27	0·81462	0·57999	28	0·81445	0·58022	29	0·81428	0·58046	30	0·81411	0·58070	1	
2		1·62958	1·15951		1·62924	1·15998		1·62890	1·16045		1·62856	1·16093		1·62823	1·16140	2	
3		2·44437	1·73926		2·44386	1·73997		2·44335	1·74068		2·44285	1·74139		2·44234	1·74210	3	
4		3·25916	2·31902		3·25848	2·31996		3·25781	2·32091		3·25713	2·32186		3·25646	2·32281	4	
5		4·07395	2·89877		4·07311	2·89996		4·07226	2·90114		4·07142	2·90233		4·07057	2·90351	5	
6		4·88874	3·47853		4·88773	3·47995		4·88671	3·48137		4·88570	3·48279		4·88469	3·48421	6	
7		5·70353	4·05828		5·70235	4·05994		5·70117	4·06160		5·69999	4·06326		5·69880	4·06492	7	
8		6·51832	4·63804		6·51697	4·63993		6·51562	4·64183		6·51427	4·64372		6·51292	4·64562	8	
9		7·33311	5·21779		7·33159	5·21993		7·33007	5·22206		7·32855	5·22419		7·32703	5·22632	9	
10	34	8·14790	5·79755	33	8·14622	5·79992	32	8·14453	5·80229	31	8·14284	5·80466	30	8·14115	5·80703	10	
1	36	0·81310	0·58212	37	0·81293	0·58236	38	0·81276	0·58259	39	0·81259	0·58283	40	0·81242	0·58306	1	
2		1·62620	1·16424		1·62586	1·16472		1·62552	1·16519		1·62518	1·16566		1·62484	1·16613	2	
3		2·43930	1·74636		2·43879	1·74708		2·43828	1·74778		2·43777	1·74849		2·43726	1·74920	3	
4		3·25240	2·32849		3·25172	2·32944		3·25104	2·33038		3·25037	2·33132		3·24969	2·33227	4	
5		4·06550	2·91061		4·06465	2·91180		4·06381	2·91298		4·06296	2·91416		4·06211	2·91534	5	
6		4·87860	3·49273		4·87758	3·49416		4·87657	3·49557		4·87555	3·49699		4·87453	3·49841	6	
7		5·69170	4·07486		5·69051	4·07652		5·68933	4·07817		5·68814	4·07982		5·68696	4·08148	7	
8		6·50480	4·65698		6·50345	4·65888		6·50209	4·66076		6·50074	4·66265		6·49938	4·66454	8	
9		7·31790	5·23910		7·31638	5·24124		7·31485	5·24336		7·31333	5·24549		7·31180	5·24761	9	
10	24	8·13100	5·82123	23	8·12931	5·82360	22	8·12762	5·82596	21	8·12592	5·82832	20	8·12423	5·83068	10	
1	46	0·81140	0·58448	47	0·81123	0·58472	48	0·81106	0·58495	49	0·81089	0·58519	50	0·81072	0·58542	1	
2		1·62280	1·16897		1·62246	1·16944		1·62212	1·16991		1·62178	1·17038		1·62144	1·17085	2	
3		2·43421	1·75345		2·43370	1·75416		2·43319	1·75487		2·43268	1·75558		2·43217	1·75628	3	
4		3·24561	2·33794		3·24493	2·33888		3·24425	2·33983		3·24357	2·34077		3·24289	2·34171	4	
5		4·05702	2·92242		4·05617	2·92360		4·05531	2·92478		4·05446	2·92596		4·05361	2·92714	5	
6		4·86842	3·50691		4·86740	3·50833		4·86638	3·50974		4·86536	3·51116		4·86434	3·51257	6	
7		5·67982	4·09139		5·67863	4·09305		5·67744	4·09470		5·67625	4·09635		5·67506	4·09800	7	
8		6·49123	4·67588		6·48987	4·67777		6·48851	4·67966		6·48714	4·68154		6·48578	4·68343	8	2
9		7·30263	5·26037		7·30110	5·26249		7·29957	5·26461		7·29804	5·26674		7·29651	5·26886	9	
10	14	8·11404	5·84485	13	8·11234	5·84721	12	8·11063	5·84957	11	8·10893	5·85193	10	8·10723	5·85429	10	9
1	56	0·80970	0·58684	57	0·80953	0·58707	58	0·80935	0·58731	59	0·80918	0·58755	60	0·80901	0·58778	1	6
2		1·61940	1·17368		1·61906	1·17415		1·61871	1·17462		1·61837	1·17510		1·61803	1·17557	2	
3		2·42910	1·76053		2·42859	1·76123		2·42807	1·76194		2·42756	1·76265		2·42705	1·76336	3	
4		3·23880	2·34737		3·23812	2·34831		3·23743	2·34925		3·23675	2·35020		3·23606	2·35114	4	
5		4·04850	2·93421		4·04765	2·93539		4·04679	2·93657		4·04594	2·93775		4·04508	2·93892	5	
6		4·85820	3·52106		4·85718	3·52247		4·85615	3·52388		4·85512	3·52530		4·85410	3·52671	6	
7		5·66790	4·10790		5·66671	4·10955		5·66551	4·11120		5·66431	4·11285		5·66311	4·11449	7	
8		6·47760	4·69474		6·47624	4·69663		6·47487	4·69851		6·47350	4·70040		6·47213	4·70228	8	
9		7·28730	5·28159		7·28577	5·28371		7·28422	5·28583		7·28269	5·28795		7·28115	5·29006	9	
10	04	8·09700	5·86843	03	8·09530	5·87079	02	8·09358	5·87314	01	8·09188	5·87550	00	8·09017	5·87785	10	
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.	

54 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·80884	0·58802	02	0·80867	0·58825	03	0·80850	0·58849	04	0·80833	0·58872	05	0·80816	0·58896	1
2		1·61769	1·17604		1·61734	1·17651		1·61700	1·17698		1·61666	1·17745		1·61632	1·17792	2
3		2·42653	1·76406		2·42602	1·76476		2·42551	1·76547		2·42499	1·76617		2·42448	1·76688	3
4		3·23538	2·35208		3·23469	2·35302		3·23401	2·35396		3·23333	2·35490		3·23264	2·35584	4
5		4·04423	2·94010		4·04337	2·94127		4·04251	2·94245		4·04166	2·94363		4·04080	2·94480	5
6		4·85307	3·52812		4·85204	3·52953		4·85102	3·53094		4·84999	3·53235		4·84896	3·53376	6
7		5·66192	4·11614		5·66072	4·11779		5·65952	4·11943		5·65832	4·12108		5·65712	4·12272	7
8		6·47076	4·70416		6·46939	4·70604		6·46802	4·70792		6·46665	4·70980		6·46528	4·71169	8
9		7·27961	5·29218		7·27807	5·29430		7·27653	5·29641		7·27499	5·29853		7·27345	5·30065	9
10	59	8·08846	5·88020	58	8·08675	5·88255	57	8·08503	5·88491	56	8·08332	5·88726	55	8·08161	5·88961	10
1	11	0·80713	0·59037	12	0·80696	0·59060	13	0·80678	0·59084	14	0·80661	0·59107	15	0·80644	0·59130	1
2		1·61426	1·18074		1·61392	1·18121		1·61357	1·18168		1·61323	1·18215		1·61288	1·18261	2
3		2·42139	1·77111		2·42088	1·77181		2·42036	1·77252		2·41984	1·77322		2·41933	1·77392	3
4		3·22852	2·36148		3·22784	2·36242		3·22715	2·36336		3·22646	2·36430		3·22577	2·36523	4
5		4·03566	2·95185		4·03480	2·95302		4·03394	2·95420		4·03308	2·95537		4·03222	2·95654	5
6		4·84279	3·54222		4·84176	3·54363		4·84073	3·54504		4·83969	3·54645		4·83866	3·54785	6
7		5·64992	4·13259		5·64872	4·13423		5·64751	4·13588		5·64631	4·13752		5·64511	4·13916	7
8		6·45705	4·72296		6·45568	4·72484		6·45430	4·72672		6·45293	4·72860		6·45155	4·73047	8
9		7·26418	5·31333		7·26264	5·31545		7·26109	5·31756		7·25954	5·31967		7·25800	5·32178	9
10	49	8·07132	5·90371	48	8·06960	5·90605	47	8·06788	5·90840	46	8·06616	5·91075	45	8·06444	5·91309	10
1	21	0·80541	0·59271	22	0·80523	0·59295	23	0·80506	0·59318	24	0·80489	0·59341	25	0·80472	0·59365	1
2		1·61082	1·18543		1·61047	1·18590		1·61013	1·18636		1·60978	1·18683		1·60944	1·18730	2
3		2·41623	1·77814		2·41571	1·77885		2·41519	1·77955		2·41468	1·78025		2·41416	1·78095	3
4		3·22164	2·37086		3·22095	2·37180		3·22026	2·37273		3·21957	2·37367		3·21888	2·37461	4
5		4·02705	2·96358		4·02619	2·96475		4·02533	2·96592		4·02446	2·96709		4·02360	2·96826	5
6		4·83246	3·55629		4·83143	3·55770		4·83039	3·55910		4·82936	3·56051		4·82832	3·56191	6
7		5·63787	4·14901		5·63667	4·15065		5·63546	4·15229		5·63425	4·15393		5·63304	4·15557	7
8		6·44329	4·74173		6·44191	4·74360		6·44053	4·74547		6·43915	4·74735		6·43776	4·74922	8
9		7·24870	5·33444		7·24715	5·33655		7·24559	5·33866		7·24404	5·34077		7·24248	5·34287	9
10	39	8·05411	5·92716	38	8·05239	5·92950	37	8·05066	5·93184	36	8·04893	5·93419	35	8·04721	5·93653	10
1	31	0·80368	0·59505	32	0·80351	0·59529	33	0·80333	0·59552	34	0·80316	0·59575	35	0·80299	0·59599	1
2		1·60736	1·19011		1·60702	1·19058		1·60667	1·19104		1·60632	1·19151		1·60598	1·19198	2
3		2·41105	1·78516		2·41053	1·78587		2·41001	1·78657		2·40949	1·78727		2·40897	1·78797	3
4		3·21473	2·38022		3·21404	2·38116		3·21335	2·38209		3·21265	2·38302		3·21196	2·38396	4
5		4·01841	2·97528		4·01755	2·97645		4·01668	2·97762		4·01582	2·97878		4·01495	2·97995	5
6		4·82210	3·57033		4·82106	3·57174		4·82002	3·57314		4·81898	3·57454		4·81794	3·57594	6
7		5·62578	4·16539		5·62457	4·16703		5·62336	4·16866		5·62214	4·17030		5·62093	4·17193	7
8		6·42947	4·76045		6·42808	4·76232		6·42670	4·76419		6·42531	4·76605		6·42392	4·76793	8
9		7·23315	5·35550		7·23159	5·35761		7·23003	5·35971		7·22847	5·36181		7·22691	5·36392	9
10	29	8·03683	5·95056	28	8·03510	5·95290	27	8·03337	5·95524	26	8·03164	5·95757	25	8·02991	5·95991	10
1	41	0·80194	0·59739	42	0·80177	0·59762	43	0·80160	0·59785	44	0·80142	0·59809	45	0·80125	0·59832	1
2		1·60389	1·19478		1·60355	1·19525		1·60320	1·19571		1·60285	1·19618		1·60250	1·19664	2
3		2·40584	1·79217		2·40532	1·79287		2·40480	1·79357		2·40428	1·79427		2·40376	1·79497	3
4		3·20779	2·38956		3·20710	2·39050		3·20640	2·39143		3·20571	2·39236		3·20501	2·39329	4
5		4·00974	2·98696		4·00887	2·98812		4·00800	2·98929		4·00713	2·99045		4·00626	2·99162	5
6		4·81169	3·58435		4·81065	3·58575		4·80961	3·58714		4·80856	3·58854		4·80752	3·58994	6
7		5·61364	4·18174		5·61242	4·18337		5·61121	4·18500		5·60999	4·18664		5·60877	4·18827	7
8		6·41559	4·77913		6·41420	4·78100		6·41281	4·78286		6·41142	4·78473		6·41003	4·78659	8
9		7·21754	5·37652		7·21598	5·37862		7·21441	5·38072		7·21285	5·38282		7·21128	5·38492	9
10	19	8·01949	5·97392	18	8·01775	5·97625	17	8·01601	5·97858	16	8·01427	5·98091	15	8·01253	5·98324	10
1	51	0·80020	0·59972	52	0·80003	0·59995	53	0·79985	0·60018	54	0·79968	0·60042	55	0·79951	0·60065	1
2		1·60041	1·19944		1·60006	1·19990		1·59971	1·20037		1·59936	1·20084		1·59902	1·20130	2
3		2·40062	1·79916		2·40010	1·79986		2·39957	1·80056		2·39905	1·80126		2·39853	1·80195	3
4		3·20083	2·39888		3·20013	2·39981		3·19943	2·40075		3·19873	2·40168		3·19804	2·40261	4
5		4·00104	2·99861		4·00016	2·99977		3·99929	3·00093		3·99842	3·00210		3·99755	3·00326	5
6		4·80124	3·59833		4·80020	3·59972		4·79915	3·60112		4·79810	3·60252		4·79706	3·60391	6
7		5·60145	4·19805		5·60023	4·19968		5·59901	4·20131		5·59779	4·20294		5·59657	4·20456	7
8		6·40166	4·79777		6·40027	4·79963		6·39887	4·80150		6·39747	4·80336		6·39608	4·80522	8
9		7·20187	5·39749		7·20030	5·39959		7·19873	5·40168		7·19716	5·40378		7·19559	5·40587	9
10	09	8·00208	5·99722	08	8·00033	5·99955	07	7·99859	6·00187	06	7·99684	6·00420	05	7·99510	6·00652	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 53.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·80799	0·58919	07	0·80781	0·58943	08	0·80764	0·58966	09	0·80747	0·58990	10	0·80730	0·59013	1
2		1·61598	1·17839		1·61563	1·17886		1·61529	1·17933		1·61495	1·17980		1·61460	1·18027	2
3		2·42397	1·76758		2·42345	1·76829		2·42294	1·76899		2·42242	1·76970		2·42191	1·77040	3
4		3·23196	2·35678		3·23127	2·35772		3·23058	2·35866		3·22990	2·35960		3·22921	2·36054	4
5		4·03995	2·94598		4 03909	2·94715		4·03823	2·94833		4·03737	2·94950		4·03651	2·95068	5
6		4·84794	3·53517		4·84691	3·53658		4·84588	3·53799		4·84485	3·53940		4·84382	3·54081	6
7		5·65593	4·12437		5·65472	4·12601		5 65352	4·12766		5·65232	4·12930		5·65112	4·13095	7
8		6·46392	4·71357		6·46254	4·71545		6·46117	4·71733		6·45980	4·71920		6·45843	4·72108	8
9		7·27191	5·30276		7·27036	5·30488		7·26882	5·30699		7·26727	5·30911		7·26573	5·31122	9
10	54	8·07990	5·89196	53	8·07818	5·89431	52	8·07647	5·89666	51	8·07475	5·89901	50	8·07303	5·90136	10
1	16	0·80627	0·59154	17	0·80610	0·59177	18	0·80592	0·59201	19	0·80575	0·59224	20	0.80558	0·59248	1
2		1·61254	1·18308		1·61220	1·18355		1·61185	1·18402		1·61151	1·18449		1·61116	1·18496	2
3		2·41881	1·77463		2·41830	1·77533		2·41778	1·77603		2·41726	1·77674		2·41675	1·77744	3
4		3·22509	2·36617		3·22440	2·36711		3·22371	2·36805		3·22302	2·36899		3·22233	2·36992	4
5		4·03136	2·95772		4·03050	2·95889		4·02964	2·96006		4·02878	2·96123		4·02791	2·96241	5
6		4·83763	3·54926		4·83660	3·55067		4·83556	3·55207		4·83453	3·55348		4·83350	3·55489	6
7		5·64390	4·14080		5·64270	4·14245		5·64149	4·14409		5·64029	4·14573		5·63908	4·14737	7
8		6·45018	4·732235		6·44880	4·73422		6·44742	4·73610		6·44604	4·73798		6·44466	4·73985	8
9		7·25645	5·32389		7·25490	5·32600		7·25335	5·32811		7·25180	5·33022		7·25025	5·33233	9
10	44	8·06272	5·91544	43	8·06100	5·91778	42	8·05928	5·92013	41	8·05756	5·92247	40	8·05583	5·92482	10
1	26	0·80454	0·59388	27	0·80437	0·59412	28	0·80420	0·59435	29	0·80403	0·59458	30	0·80385	0·59482	1
2		1·60909	1·18777		1·60875	1·18824		1·60840	1·18871		1·60806	1·18917		1·60771	1·18964	2
3		2·41364	1·78166		2·41312	1·78236		2·41260	1·78306		2·41209	1·78376		2·41157	1·78446	3
4		3·21819	2·37554		3·21750	2·37648		3·21681	2·37742		3·21612	2·37835		3·21542	2·37929	4
5		4·02274	2·96943		4·02187	2·97060		4·02101	2·97177		4·02015	2 97294		4·01928	2·97411	5
6		4·82729	3·56332		4·82625	3·56472		4·82521	3·56613		4·82418	3·56753		4·82314	3·56893	6
7		5·63183	4·15720		5·63062	4·15884		5·62941	4·16048		5·62821	4·16212		5·62699	4·16375	7
8		6·43638	4·75109		6·43500	4·75296		6·43362	4·75484		6·43224	4 75671		6·43085	4·75858	8
9		7·24093	5·34498		7·23938	5·34708		7·23782	5·34919		7·23627	5·35130		7·23471	5·35340	9
10	34	8·04548	5·93887	33	8 04375	5·94121	32	8·04202	5·94355	31	8·04030	5·94589	30	8·03857	5·94822	10
1	36	0·80281	0·59622	37	0·80264	0·59646	38	0·80247	0·59669	39	0·80229	0·59692	40	0·80212	0·59715	1
2		1·60563	1·19244		1·60528	1·19291		1·60494	1·19338		1·60459	1·19385		1·60424	1·19431	2
3		2·40845	1·78867		2·40793	1·78937		2·40741	1·79007		2·40689	1·79077		2·40636	1·79147	3
4		3·21127	2·38489		3·21057	2·38583		3·20988	2·38676		3·20918	2·38770		3·20849	2·38863	4
5		4·01408	2·98112		4·01322	2·98229		4·01235	2·98345		4·01148	2·98462		4·01061	2·98579	5
6		4·81690	3·57734		4·81586	3·57875		4·81482	3·58015		4·81378	3·58155		4·81273	3·58295	6
7		5·61972	4·17357		5·61850	4·17520		5·61729	4·17684		5·61607	4·17847		5·61486	4·18011	7
8		6·42254	4·76979		6·42115	4·77166		6·41976	4·77353		6·41837	4·77540		6·41698	4·77726	8
9		7·22535	5·36602		7·22379	5·36812		7·22223	5·37022		7·22067	5·37232		7·21910	5·37442	9
10	24	8·02817	5·96225	23	8·02644	5·96458	22	8·02470	5·96691	21	8·02297	5·96925	20	8·02123	5·97158	10
1	46	0·80108	0·59855	47	0·80090	0·59879	48	0·80073	0·59902	49	0·80055	0·59925	50	0·80038	0·59948	1
2		1·60216	1·19711		1·60181	1·19758		1·60146	1·19804		1·60111	1·19851		1·60076	1·19897	2
3		2·40324	1·79567		2·40271	1·79637		2·40219	1·79707		2·40167	1·79776		2·40114	1·79846	3
4		3·20432	2·39423		3·20362	2·39516		3·20292	2·39609		3·20222	2·39702		3·20153	2·39795	4
5		4·00540	2·99278		4·00452	2·99395		4·00365	2·99511		4·00278	2·99628		4·00191	2·99744	5
6		4·80648	3·59134		4·80543	3·59274		4·80438	3·59414		4·80334	3·59553		4·80229	3·59693	6
7		5·60756	4·18990		5·60633	4·19153		5·60511	4·19316		5·60389	4·19479		5·60267	4·19642	7
8		6·40864	4·78846		6·40724	4·79032		6·40585	4·79218		6·40445	4·79405		6·40306	4·79591	8
9		7·20972	5·38701		7·20815	5·38911		7·20658	5·39121		7·20501	5·39330		7·20344	5·39540	9
10	14	8·01080	5 98557	13	8·00905	5·98790	12	8·00731	5·99023	11	8·00557	5·99256	10	8·00382	5·99489	10
1	56	0·79933	0·60088	57	0·79916	0·60111	58	0·79898	0·60135	59	0·79881	0·60158	60	0·79863	0·60181	1
2		1·59867	1·20177		1·59832	1·20223		1·59797	1·20270		1·59762	1·20316		1·59727	1·20363	2
3		2·39800	1·80265		2·39748	1·80335		2·39695	1·80405		2·39643	1·80474		2·39590	1·80544	3
4		3·19734	2·40354		3·19664	2 40447		3·19594	2·40540		3·19524	2·40633		3·19454	2·40726	4
5		3·99667	3·00442		3 99580	3·00558		3·99492	3·00675		3·99405	3·00791		3·99317	3·00907	5
6		4·79601	3·60531		4·79496	3·60670		4·79391	3·60810		4·79286	3·60949		4·79181	3·61089	6
7		5·59534	4·20619		5·59412	4·20782		5·59289	4·20945		5·59167	4·21107		5·59044	4·21270	7
8		6·39468	4·80708		6·39328	4·80894		6·39188	4 81080		6·39048	4·81266		6·38908	4·81452	8
9		7·19401	5·40796		7·19244	5·41006		7·19086	5·41215		7·18929	5·41424		7·18771	5·41633	9
10	04	7·99335	6·00885	03	7·99160	6·01118	02	7·98985	6·01350	01	7·98810	6·01582	00	7·98635	6·01815	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

6

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·79846	0·60204	02	0·79828	0·60227	03	0·79811	0·60251	04	0·79793	0·60274	05	0·79775	0·60297	1
2		1·59692	1·20409		1·59657	1·20455		1·59622	1·20502		1·59586	1·20548		1·59551	1·20595	2
3		2·39538	1·80614		2·39485	1·80683		2·39433	1·80753		2·39380	1·80823		2·39327	1·80892	3
4		3·19384	2·40818		3·19314	2·40911		3·19244	2·41004		3·19173	2·41097		3·19103	2·41190	4
5		3·99230	3·01023		3·99142	3·01139		3·99055	3·01255		3·98967	3·01372		3·98879	3·01488	5
6		4·79076	3·61228		4·78971	3·61367		4·78866	3·61507		4·78760	3·61646		4·78655	3·61785	6
7		5·58922	4·21433		5·58799	4·21595		5·58677	4·21758		5·58554	4·21920		5·58431	4·22083	7
8		6·38768	4·81637		6·38628	4·81823		6·38488	4·82009		6·38347	4·82195		6·38207	4·82380	8
9		7·18614	5·41842		7·18456	5·42051		7·18299	5·42260		7·18141	5·42469		7·17983	5·42678	9
10	59	7·98460	6·02047	58	7·98285	6·02279	57	7·98110	6·02511	56	7·97934	6·02744	55	7·97759	6·02976	10
1	11	0·79670	0·60436	12	0·79653	0·60459	13	0·79635	0·60483	14	0·79617	0·60506	15	0·79600	0·60529	1
2		1·59341	1·20873		1·59306	1·20919		1·59270	1·20966		1·59235	1·21012		1·59200	1·21058	2
3		2·39011	1·81310		2·38959	1·81379		2·38906	1·81449		2·38853	1·81518		2·38800	1·81588	3
4		3·18682	2·41746		3·18612	2·41839		3·18541	2·41932		3·18471	2·42024		3·18400	2·42117	4
5		3·98352	3·02183		3·98265	3·02299		3·98177	3·02415		3·98089	3·02531		3·98001	3·02647	5
6		4·78023	3·62620		4·77918	3·62759		4·77812	3·62898		4·77706	3·63037		4·77601	3·63176	6
7		5·57694	4·23057		5·57571	4·23219		5·57447	4·23381		5·57324	4·23543		5·57201	4·23705	7
8		6·37364	4·83493		6·37224	4·83679		6·37083	4·83864		6·36942	4·84049		6·36801	4·84235	8
9		7·17035	5·43930		7·16877	5·44139		7·16718	5·44347		7·16560	5·44556		7·16401	5·44764	9
10	49	7·96705	6·04367	48	7·96530	6·04599	47	7·96354	6·04830	46	7·96178	6·05062	45	7·96002	6·05294	10
1	21	0·79494	0·60668	22	0·79476	0·60691	23	0·79459	0·60714	24	0·79441	0·60737	25	0·79423	0·60760	1
2		1·58988	1·21336		1·58953	1·21382		1·58918	1·21428		1·58882	1·21475		1·58847	1·21521	2
3		2·38483	1·82004		2·38430	1·82074		2·38377	1·82143		2·38324	1·82212		2·38271	1·82282	3
4		3·17977	2·42672		3·17907	2·42765		3·17836	2·42857		3·17765	2·42950		3·17695	2·43042	4
5		3·97472	3·03341		3·97383	3·03456		3·97295	3·03572		3·97207	3·03687		3·97119	3·03803	5
6		4·76966	3·64009		4·76860	3·64148		4·76754	3·64286		4·76648	3·64425		4·76542	3·64564	6
7		5·56461	4·24677		5·56337	4·24839		5·56213	4·25001		5·56090	4·25163		5·55966	4·25324	7
8		6·35955	4·85345		6·35814	4·85530		6·35673	4·85715		6·35531	4·85900		6·35390	4·86085	8
9		7·15449	5·46014		7·15291	5·46221		7·15132	5·46430		7·14973	5·46638		7·14814	5·46846	9
10	39	7·94944	6·06682	38	7·94767	6·06913	37	7·94591	6·07144	36	7·94414	6·07375	35	7·94238	6·07607	10
1	31	0·79317	0·60899	32	0·79299	0·60922	33	0·79282	0·60945	34	0·79264	0·60968	35	0·79246	0·60991	1
2		1·58635	1·21798		1·58599	1·21844		1·58564	1·21890		1·58528	1·21936		1·58493	1·21982	2
3		2·37952	1·82697		2·37899	1·82766		2·37846	1·82836		2·37793	1·82905		2·37740	1·82974	3
4		3·17270	2·43596		3·17199	2·43689		3·17128	2·43781		3·17057	2·43873		3·16986	2·43965	4
5		3·96588	3·04496		3·96499	3·04611		3·96410	3·04726		3·96322	3·04842		3·96233	3·04957	5
6		4·75905	3·65395		4·75799	3·65533		4·75693	3·65672		4·75586	3·65810		4·75480	3·65948	6
7		5·55223	4·26294		5·55099	4·26456		5·54975	4·26617		5·54851	4·26778		5·54726	4·26940	7
8		6·34540	4·87193		6·34399	4·87378		6·34257	4·87562		6·34115	4·87747		6·33973	4·87931	8
9		7·13858	5·48092		7·13699	5·48300		7·13539	5·48508		7·13380	5·48715		7·13220	5·48923	9
10	29	7·93176	6·08992	28	7·92999	6·09223	27	7·92821	6·09453	26	7·92644	6·09684	25	7·92467	6·09914	10
1	41	0·79140	0·61129	42	0·79122	0·61152	43	0·79104	0·61175	44	0·79086	0·61198	45	0·79068	0·61221	1
2		1·58280	1·22259		1·58244	1·22305		1·58209	1·22351		1·58173	1·22397		1·58137	1·22443	2
3		2·37420	1·83389		2·37367	1·83458		2·37313	1·83527		2·37260	1·83596		2·37206	1·83665	3
4		3·16560	2·44518		3·16489	2·44610		3·16418	2·44702		3·16347	2·44794		3·16275	2·44886	4
5		3·95700	3·05648		3·95611	3·05763		3·95522	3·05878		3·95433	3·05993		3·95344	3·06108	5
6		4·74840	3·66778		4·74734	3·66916		4·74627	3·67054		4·74520	3·67192		4·74413	3·67330	6
7		5·53980	4·27907		5·53856	4·28068		5·53731	4·28230		5·53607	4·28391		5·53482	4·28552	7
8		6·33121	4·89037		6·32978	4·89221		6·32836	4·89405		6·32694	4·89589		6·32551	4·89773	8
9		7·12261	5·50167		7·12101	5·50374		7·11941	5·50581		7·11780	5·50788		7·11620	5·50995	9
10	19	7·91401	6·11297	18	7·91223	6·11527	17	7·91045	6·11757	16	7·90867	6·11987	15	7·90689	6·12217	10
1	51	0·78962	0·61359	52	0·78944	0·61382	53	0·78926	0·61405	54	0·78908	0·61428	55	0·78890	0·61451	1
2		1·57924	1·22719		1·57888	1·22765		1·57852	1·22811		1·57816	1·22857		1·57781	1·22902	2
3		2·36886	1·84078		2·36832	1·84147		2·36778	1·84216		2·36725	1·84285		2·36671	1·84354	3
4		3·15848	2·45438		3·15776	2·45530		3·15705	2·45622		3·15633	2·45714		3·15562	2·45805	4
5		3·94810	3·06798		3·94720	3·06913		3·94631	3·07027		3·94542	3·07142		3·94452	3·07257	5
6		4·73772	3·68157		4·73664	3·68295		4·73557	3·68433		4·73450	3·68571		4·73343	3·68708	6
7		5·52734	4·29517		5·52608	4·29678		5·52483	4·29838		5·52358	4·29999		5·52233	4·30160	7
8		6·31696	4·90877		6·31553	4·91060		6·31410	4·91244		6·31267	4·91428		6·31124	4·91611	8
9		7·10658	5·52236		7·10497	5·52443		7·10336	5·52650		7·10175	5·52856		7·10014	5·53063	9
10	09	7·89620	6·13596	08	7·89441	6·13826	07	7·89262	6·14055	06	7·89084	6·14285	05	7·88905	6·14514	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·79758	0·60320	07	0·79740	0·60344	08	0·79723	0·60367	09	0·79705	0·60390	10	0·79688	0·60413	1
2		1·59516	1·20641		1·59481	1·20688		1·59446	1·20734		1·59411	1·20780		1·59376	1·20827	2
3		2·39275	1·80962		2·39222	1·81032		2·39169	1·81101		2·39117	1·81171		2·39064	1·81240	3
4		3·19033	2·41283		3·18963	2·41376		3·18893	2·41468		3·18822	2·41561		3·18752	2·41654	4
5		3·98791	3·01604		3·98704	3·01720		3·98616	3·01836		3·98528	3·01951		3·98440	3·02067	5
6		4·78550	3·61924		4·78445	3·62064		4·78339	3·62203		4·78234	3·62342		4·78128	3·62481	6
7		5·58308	4·22245		5·58185	4·22408		5·58063	4·22570		5·57940	4·22732		5·57817	4·22894	7
8		6·38067	4·82566		6·37926	4·82752		6·37786	4·82937		6·37645	4·83123		6·37505	4·83308	8
9		7·17825	5·42887		7·17667	5·43096		7·17509	5·43304		7·17351	5·43513		7·17193	5·43722	9
10	54	7·97584	6·03208	53	7·97408	6·03440	52	7·97233	6·03672	51	7·97057	6·03903	50	7·96881	6·04135	10
1	16	0·79582	0·60552	17	0·79564	0·60575	18	0·79547	0·60598	19	0·79529	0·60622	20	0·79512	0·60645	1
2		1·59165	1·21105		1·59129	1·21151		1·59094	1·21197		1·59059	1·21244		1·59024	1·21290	2
3		2·38747	1·81657		2·38694	1·81727		2·38642	1·81796		2·38589	1·81866		2·38536	1·81935	3
4		3·18330	2·42210		3·18259	2·42302		3·18189	2·42395		3·18118	2·42488		3·18048	2·42580	4
5		3·97913	3·02762		3·97824	3·02878		3·97736	3·02994		3·97648	3·03110		3·97560	3·03225	5
6		4·77495	3·63315		4·77389	3·63454		4·77284	3·63593		4·77178	3·63732		4·77072	3·63870	6
7		5·57078	4·23867		5·56954	4·24029		5·56831	4·24191		5·56708	4·24354		5·56584	4·24515	7
8		6·36660	4·84420		6·36519	4·84605		6·36378	4·84790		6·36237	4·84976		6·36096	4·85160	8
9		7·16243	5·44972		7·16084	5·45181		7·15926	5·45389		7·15767	5·45598		7·15608	5·45805	9
10	44	7·95826	6·05525	43	7·95649	6·05757	42	7·95473	6·05988	41	7·95297	6·06220	40	7 95120	6·06451	10
1	26	0·79406	0·60783	27	0·79388	0·60806	28	0·79370	0·60830	29	0·79353	0·60853	30	0·79335	0·60876	1
2		1·58812	1·21567		1·58776	1·21613		1·58741	1·21660		1·58706	1·21706		1 58670	1·21752	2
3		2·38218	1·82351		2·38165	1·82420		2·38112	1·82490		2·38059	1·82559		2·38005	1·82628	3
4		3·17624	2·43135		3·17553	2·43227		3·17482	2·43320		3·17412	2·43412		3·17341	2·43504	4
5		3·97030	3·03919		3·96942	3·04034		3·96853	3·04150		3·96765	3·04265		3 96676	3·04380	5
6		4·76436	3·64702		4 76330	3·64841		4·76224	3·64980		4·76118	3·65118		4·76011	3·65256	6
7		5·55842	4·25486		5·55719	4·25648		5·55595	4·25810		5·55471	4·25971		5·55347	4·26132	7
8		6·35248	4·86270		6·35107	4·86455		6·34965	4·86640		6·34824	4·86824		6·34682	4·87009	8
9		7·14654	5·47054		7·14495	5·47262		7·14336	5·47470		7·14177	5·47677		7·14017	5·47885	9
10	34	7·94061	6 07838	33	7·93884	6·08069	32	7·93707	6·08300	31	7·93530	6·08530	30	7·93353	6·08761	10
1	36	0·79228	0·61014	37	0·79211	0·61037	38	0·79193	0·61060	39	0·79175	0·61083	40	0·79157	0·61106	1
2		1·58457	1·22029		1·58422	1·22075		1·58386	1·22121		1·58351	1·22167		1·58315	1·22213	2
3		2·37686	1·83043		2·37633	1·83112		2·37580	1·83181		2·37527	1·83250		2·37473	1 83319	3
4		3·16915	2·44058		3·16844	2·44150		3·16773	2·44242		3·16702	2·44334		3·16631	2·44426	4
5		3·96144	3·05072		3·96056	3·05187		3·95967	3·05303		3·95878	3 05418		3·95789	3·05533	5
6		4·75373	3·66087		4·75267	3·66225		4·75160	3·66363		4·75054	3·66501		4·74947	3·66639	6
7		5·54602	4·27101		5·54478	4·27262		5·54354	4·27424		5·54229	4·27585		5·54105	4·27746	7
8		6·33831	4·88116		6·33689	4·88300		6·33547	4·88484		6·33405	4·88669		6·33263	4·88853	8
9		7·13060	5·49130		7·12900	5·49338		7·12741	5·49545		7·12581	5·49752		7·12421	5·49960	9
10	24	7·92289	6·10145	23	7·92112	6·10375	22	7·91934	6·10606	21	7·91757	6·10836	20	7·91579	6·11066	10
1	46	0·79051	0·61244	47	0·79033	0·61267	48	0·79015	0·61290	49	0·78997	0·61313	50	0·78979	0·61336	1
2		1·58102	1·22489		1·58066	1·22535		1·58031	1·22581		1·57995	1·22627		1·57959	1·22673	2
3		2·37153	1·83734		2·37099	1·83803		2·37046	1·83872		2·36993	1·83941		2·36939	1·84009	3
4		3·16204	2·44978		3·16133	2·45070		3·16062	2·45162		3·15990	2·45254		3·15919	2·45346	4
5		3·95255	3·06223		3·95166	3·06338		8·95077	3·06453		3·94988	3·06568		3·94899	3 06683	5
6		4·74306	3·67468		4·74199	3·67606		4·74093	3·67744		4·73986	3·67882		4·73878	3·68019	6
7		5·53358	4·28713		5·53233	4·28874		5·53108	4·29034		5·52983	4·29195		5·52858	4·29356	7
8		6·32409	4·89957		6·32266	4·90141		6·32124	4·90325		6·31981	4·90509		6·31838	4·90693	8
9		7·11460	5·51202		7·11299	5·51409		7·11139	5·51616		7·10979	5·51823		7·10818	5·52029	9
10	14	7·90511	6·12447	13	7·90333	6·12677	12	7·90155	6·12907	11	7·89976	6·13137	10	7·89798	6·13366	10
1	56	0·78872	0·61474	57	0·78854	0·61497	58	0·78836	0·61520	59	0·78819	0·61543	60	0·78801	0·61566	1
2		1·57745	1·22948		1·57709	1·22994		1·57673	1·23040		1·57638	1·23086		1·57602	1·23132	2
3		2·36617	1·84423		2·36564	1·84492		2·36510	1·84560		2·36457	1·84629		2·36403	1·84698	3
4		3·15490	2·45897		3·15419	2·45989		3·15347	2·46081		3·15276	2·46172		3·15204	2·46264	4
5		3·94363	3·07372		3·94273	3·07486		3·94184	3·07601		3·94095	3·07716		3·94005	3·07830	5
6		4·73235	3·68846		4·73128	3·68984		4·73021	3·69121		4·72914	3·69259		4·72806	3·69396	6
7		5·52108	4·30320		5·51983	4·30481		5·51858	4·30642		5·51733	4·30802		5 51607	4·30963	7
8		6·30981	4·91795		6·30838	4·91978		6·30695	4·92162		6·30552	4·92345		6·30408	4·92529	8
9		7·09853	5·53269		7·09692	5·53476		7·09531	5·53682		7·09371	5·53888		7·09209	5·54095	9
10	04	7·88726	6·14744	03	7·88547	6·14973	02	7·88368	6·15203	01	7·88190	6·15432	00	7·88010	6·15661	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

52 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat	Dep.	D.
1	01	0·78783	0·61589	02	0·78765	0·61612	03	0·78747	0·61634	04	0·78729	0·61657	05	0·78711	0·61680	1
2		1·57566	1·23178		1·57530	1·23224		1·57494	1·23269		1·57458	1·23315		1·57422	1·23361	2
3		2·36349	1·84767		2·36295	1·84836		2·36241	1·84904		2·36188	1·84973		2·36134	1·85042	3
4		3·15132	2·46356		3·15060	2·46448		3·14989	2·46539		3·14917	2·46631		3·14845	2·46722	4
5		3·93915	3·07945		3·93826	3·08060		3·93736	3·08174		3·93647	3·08289		3·93557	3·08403	5
6		4·72698	3·69534		4·72592	3·69672		4·72483	3·69809		4·72376	3·69946		4·72268	3·70084	6
7		5·51482	4·31123		5·51356	4·31284		5·51231	4·31444		5·51105	4·31604		5·50980	4·31764	7
8		6·30265	4·92712		6·30121	4·92896		6·29978	4·93079		6·29835	4·93262		6·29691	4·93445	8
9		7·09048	5·54301		7·08887	5·54508		7·08725	5·54714		7·08564	5·54920		7·08403	5·55126	9
10	59	7·87831	6·15890	58	7·87652	6·16120	57	7·87473	6·16349	56	7·87294	6·16578	55	7·87114	6·16807	10
1	11	0·78603	0·61818	12	0·78585	0·61840	13	0·78567	0·61863	14	0·78549	0·61886	15	0·78531	0·61909	1
2		1·57207	1·23636		1·57171	1·23681		1·57135	1·23727		1·57099	1·23773		1·57063	1·23818	2
3		2·35811	1·85454		2·35757	1·85522		2·35703	1·85591		2·35649	1·85659		2·35595	1·85728	3
4		3·14414	2·47272		3·14342	2·47363		3·14270	2·47454		3·14198	2·47546		3·14126	2·47637	4
5		3·93018	3·09090		3·92928	3·09204		3·92838	3·09318		3·92748	3·09432		3·92658	3·09547	5
6		4·71622	3·70908		4·71514	3·71045		4·71406	3·71182		4·71298	3·71319		4·71190	3·71456	6
7		5·50225	4·32726		5·50099	4·32885		5·49973	4·33045		5·49847	4·33205		5·49721	4·33365	7
8		6·28829	4·94544		6·28685	4·94726		6·28541	4·94909		6·28397	4·95092		6·28253	4·95275	8
9		7·07433	5·56362		7·07271	5·56567		7·07109	5·56773		7·06947	5·56978		7·06785	5·57184	9
10	49	7·86036	6·18180	48	7·85857	6·18408	47	7·85677	6·18637	46	7·85497	6·18865	45	7·85317	6·19094	10
1	21	0·78423	0·62046	22	0·78405	0·62069	23	0·78387	0·62092	24	0·78369	0·62114	25	0·78351	0·62137	1
2		1·56847	1·24092		1·56810	1·24138		1·56774	1·24184		1·56738	1·24229		1·56702	1·24275	2
3		2·35270	1·86139		2·35216	1·86207		2·35162	1·86276		2·35108	1·86344		2·35053	1·86412	3
4		3·13694	2·48185		3·13621	2·48276		3·13549	2·48368		3·13477	2·48459		3·13405	2·48550	4
5		3·92117	3·10231		3·92027	3·10345		3·91937	3·10460		3·91846	3·10573		3·91756	3·10687	5
6		4·70541	3·72278		4·70432	3·72415		4·70324	3·72552		4·70216	3·72688		4·70107	3·72825	6
7		5·48964	4·34324		5·48838	4·34484		5·48711	4·34644		5·48585	4·34803		5·48458	4·34962	7
8		6·27388	4·96370		6·27243	4·96553		6·27099	4·96736		6·26954	4·96918		6·26810	4·97100	8
9		7·05811	5·58417		7·05649	5·58622		7·05486	5·58828		7·05324	5·59033		7·05161	5·59238	9
10	39	7·84235	6·20463	38	7·84054	6·20691	37	7·83874	6·20920	36	7·83693	6·21147	35	7·83512	6·21375	10
1	31	0·78242	0·62274	32	0·78224	0·62297	33	0·78206	0·62319	34	0·78188	0·62342	35	0·78170	0·62365	1
2		1·56485	1·24548		1·56449	1·24594		1·56412	1·24639		1·56376	1·24684		1·56340	1·24730	2
3		2·34728	1·86822		2·34673	1·86891		2·34619	1·86959		2·34564	1·87027		2·34510	1·87095	3
4		3·12970	2·49096		3·12898	2·49188		3·12825	2·49278		3·12753	2·49369		3·12680	2·49460	4
5		3·91213	3·11371		3·91123	3·11485		3·91032	3·11598		3·90941	3·11712		3·90851	3·11826	5
6		4·69456	3·73645		4·69347	3·73782		4·69238	3·73918		4·69129	3·74054		4·69021	3·74191	6
7		5·47698	4·35919		5·47572	4·36079		5·47445	4·36238		5·47318	4·36397		5·47191	4·36556	7
8		6·25941	4·98193		6·25796	4·98376		6·25651	4·98557		6·25506	4·98739		6·25361	4·98921	8
9		7·04184	5·60468		7·04021	5·60673		7·03858	5·60877		7·03694	5·61082		7·03531	5·61286	9
10	29	7·82427	6·22742	28	7·82246	6·22970	27	7·82064	6·23197	26	7·81883	6·23424	25	7·81702	6·23652	10
1	41	0·78061	0·62501	42	0·78043	0·62524	43	0·78024	0·62546	44	0·78006	0·62569	45	0·77988	0·62592	1
2		1·56122	1·25003		1·56086	1·25048		1·56049	1·25093		1·56013	1·25139		1·55976	1·25184	2
3		2·34183	1·87504		2·34129	1·87572		2·34074	1·87640		2·34019	1·87708		2·33965	1·87777	3
4		3·12244	2·50006		3·12172	2·50097		3·12099	2·50187		3·12026	2·50278		3·11953	2·50369	4
5		3·90306	3·12507		3·90215	3·12621		3·90124	3·12734		3·90033	3·12848		3·89942	3·12961	5
6		4·68367	3·75009		4·68258	3·75145		4·68149	3·75281		4·68039	3·75417		4·67930	3·75554	6
7		5·46428	4·37510		5·46301	4·37669		5·46173	4·37828		5·46046	4·37987		5·45919	4·38146	7
8		6·24489	5·00012		6·24344	5·00194		6·24198	5·00375		6·24053	5·00557		6·23907	5·00738	8
9		7·02551	5·62514		7·02387	5·62718		7·02223	5·62922		7·02059	5·63126		7·01896	5·63331	9
10	19	7·80612	6·25015	18	7·80430	6·25242	17	7·80248	6·25469	16	7·80066	6·25696	15	7·79884	6·25923	10
1	51	0·77879	0·62728	52	0·77860	0·62751	53	0·77842	0·62773	54	0·77824	0·62796	55	0·77806	0·62818	1
2		1·55758	1·25456		1·55721	1·25502		1·55685	1·25547		1·55648	1·25592		1·55612	1·25637	2
3		2·33637	1·88185		2·33582	1·88253		2·33527	1·88320		2·33472	1·88388		2·33418	1·88456	3
4		3·11516	2·50913		3·11443	2·51004		3·11370	2·51094		3·11297	2·51185		3·11224	2·51275	4
5		3·89395	3·13641		3·89304	3·13755		3·89212	3·13868		3·89121	3·13981		3·89030	3·14094	5
6		4·67274	3·76370		4·67164	3·76506		4·67055	3·76641		4·66945	3·76777		4·66836	3·76913	6
7		5·45153	4·39098		5·45025	4·39257		5·44898	4·39415		5·44770	4·39574		5·44642	4·39732	7
8		6·23032	5·01826		6·22886	5·02008		6·22740	5·02189		6·22594	5·02370		6·22448	5·02551	8
9		7·00911	5·64555		7·00747	5·64759		7·00583	5·64962		7·00418	5·65166		7·00254	5·65370	9
10	09	7·78791	6·27283	08	7·78608	6·27510	07	7·78425	6·27736	06	7·78243	6·27963	05	7·78060	6·28189	10
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D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·78693	0·61703	07	0·78675	0·61726	08	0·78657	0·61749	09	0·78639	0·61772	10	0·78621	0·61795	1
2		1·57387	1·23407		1·57351	1·23452		1·57315	1·23498		1·57279	1·23544		1·57243	1·23590	2
3		2·36080	1·85110		2·36026	1·85179		2·35972	1·85248		2·35918	1·85316		2·35864	1·85385	3
4		3·14774	2·46814		3·14702	2·46905		3·14630	2·46997		3·14558	2·47088		3·14486	2·47180	4
5		3·93467	3·08518		3·93377	3·08632		3·93288	3·08746		3·93198	3·08861		3·93108	3·08975	5
6		4·72161	3·70221		4·72053	3·70358		4·71945	3·70496		4·71837	3·70633		4·71729	3·70770	6
7		5·50854	4·31925		5·50728	4·32085		5·50603	4·32245		5·50477	4·32405		5·50351	4·32565	7
8		6·29548	4·93628		6·29404	4·93811		6·29260	4·93994		6·29117	4·94177		6·28973	4·94360	8
9		7·08241	5·55332		7·08079	5·55538		7·07918	5·55744		7·07756	5·55950		7·07594	5·56155	9
10	54	7·86935	6·17036	53	7·86755	6·17264	52	7·86576	6·17493	51	7·86396	6·17722	50	7·86216	6·17951	10
1	16	0·78513	0·61932	17	0·78495	0·61955	18	0·78477	0·61977	19	0·78459	0·62000	20	0·78441	0·62023	1
2		1·57027	1·23864		1·56991	1·23910		1·56955	1·23955		1·56919	1·24001		1·56883	1·24047	2
3		2·35541	1·85796		2·35486	1·85865		2·35432	1·85933		2·35378	1·86002		2·35324	1·86070	3
4		3·14054	2·47728		3·13982	2·47820		3·13910	2·47911		3·13838	2·48002		3·13766	2·48094	4
5		3·92568	3·09661		3·92478	3·09775		3 92388	3·09889		3·92298	3·10003		3·92207	3·10117	5
6		4·71082	3·71593		4·70973	3·71730		4·70865	3·71867		4·70757	3·72004		4·70649	3·72141	6
7		5·49595	4·33525		5·49469	4·33685		5·49343	4·33845		5·49217	4·34005		5·49090	4·34164	7
8		6·28109	4·95457		6·27965	4·95640		6·27821	4·95823		6·27676	4·96005		6·27532	4·96188	8
9		7·06623	5·57390		7·06460	5·57595		7·06298	5·57801		7·06136	5·58006		7·05974	5·58211	9
10	44	7·85136	6·19322	43	7·84956	6·19550	42	7·84776	6·19779	41	7·84596	6·20007	40	7·84415	6·20235	10
1	26	0·78333	0·62160	27	0·78315	0·62183	28	0·78297	0·62205	29	0·78278	0·62228	30	0·78260	0·62251	1
2		1·56666	1·24320		1·56630	1·24366		1·56594	1·24411		1·56557	1·24457		1·56521	1·24502	2
3		2·34999	1·86481		2·34945	1·86549		2·34891	1·86617		2·34836	1·86686		2·34782	1·86754	3
4		3·13332	2·48641		3·13260	2·48732		3·13188	2·48823		3·13115	2·48914		3·13043	2·49005	4
5		3·91666	3·10801		3·91575	3·10915		3·91485	3·11029		3·91394	3·11143		3·91304	3·11257	5
6		4·69999	3·72962		4·69890	3·73098		4·69782	3·73235		4·69673	3·73372		4·69564	3·73508	6
7		5·48332	4·35122		5·48205	4·35281		5·48079	4·35441		5·47952	4·35600		5·47825	4·35760	7
8		6·26665	4·97282		6·26520	4·97465		6 26376	4·97647		6·26231	4·97829		6·26086	4·98011	8
9		7·04998	5·59443		7·04835	5·59648		7·04673	5·59853		7·04510	5·60058		7·04347	5·60263	9
10	34	7·83332	6·21603	33	7·83151	6·21831	32	7·82970	6·22059	31	7·82789	6·22287	30	7·82608	6·22514	10
1	36	0·78152	0·62387	37	0·78133	0·62410	38	0·78115	0·62433	39	0·78097	0·62456	40	0·78079	0·62478	1
2		1·56304	1·24775		1·56267	1·24821		1·56231	1·24866		1·56195	1·24912		1·56158	1·24957	2
3		2·34456	1·87163		2·34401	1·87232		2·34347	1·87300		2·34292	1·87368		2·34238	1·87436	3
4		3·12608	2·49551		3·12535	2·49642		3·12462	2·49733		3·12390	2·49824		3·12317	2·49915	4
5		3·90760	3·11939		3·90669	3·12053		3·90578	3·12167		3·90487	3·12280		3·90397	3·12394	5
6		4·68912	3·74327		4·68803	3·74464		4·68694	3·74600		4·68585	3·74736		4·68476	3·74873	6
7		5·47064	4·36715		5·46937	4·36874		5·46810	4·37033		5·46682	4·37192		5·46555	4·37351	7
8		6·25216	4·99103		6·25071	4·99285		6·24925	4·99467		6·24780	4·99649		6·24635	4·99830	8
9		7·03368	5·61491		7·03205	5·61696		7·03041	5·61900		7·02878	5·62105		7·02714	5·62309	9
10	24	7·81520	6·23879	23	7·81339	6·24107	22	7·81157	6·24334	21	7·80975	6·24561	20	7·80794	6·24788	10
1	46	0·77970	0·62615	47	0·77952	0·62637	48	0·77933	0·62660	49	0·77915	0·62683	50	0·77897	0·62705	1
2		1·55940	1·25230		1·55904	1·25275		1·55867	1·25320		1·55831	1·25366		1·55794	1·25411	2
3		2·33910	1·87845		2·33856	1·87913		2·33801	1·87981		2·33746	1·88049		2·33691	1·88117	3
4		3·11880	2·50460		3·11808	2·50550		3·11735	2·50641		3·11662	2·50732		3·11589	2·50822	4
5		3·89851	3·13075		3·89760	3·13188		3·89669	3·13301		3·89577	3·13415		3·89486	3·13528	5
6		4·67821	3·75690		4·67712	3·75826		4·67602	3·75962		4·67493	3·76098		4·67383	3·76234	6
7		5·45791	4·38305		5·45664	4·38463		5·45536	4·38622		5·45408	4·38781		5·45281	4·38939	7
8		6·23761	5·00920		6·23616	5·01101		6·23470	5·01283		6·23324	5·01464		6·23178	5·01645	8
9		7·01732	5·63535		7·01568	5·63739		7·01404	5·63943		7·01240	5·64147		7·01075	5·64351	9
10	14	7·79702	6·26150	13	7·79520	6·26377	12	7·79338	6·26603	11	7·79155	6·26830	10	7·78973	6·27057	10
1	56	0·77787	0·62841	57	0·77769	0·62864	58	0·77751	0·62886	59	0·77732	0·62909	60	0·77714	0·62932	1
2		1·55575	1·25683		1·55538	1·25728		1·55502	1·25773		1·55465	1·25818		1·55429	1·25864	2
3		2·33363	1·88524		2·33308	1·88592		2·33253	1·88660		2·33198	1·88728		2·33143	1·88796	3
4		3·11151	2·51366		3·11077	2·51456		3·11004	2·51547		3·10931	2·51637		3·10858	2·51728	4
5		3·88938	3·14207		3·88847	3·14321		3·88756	3·14434		3·88664	3·14547		3·88573	3·14660	5
6		4·66726	3·77049		4·66616	3·77185		4·66507	3·77320		4·66397	3·77456		4·66287	3·77592	6
7		5·44514	4·39890		5·44386	4·40049		5·44258	4·40207		5·44130	4·40366		5·44002	4·40524	7
8		6·22302	5·02732		6·22155	5·02913		6·22009	5·03094		6·21863	5·03275		6·21716	5·03456	8
9		7·00089	5·65574		6·99925	5·65777		6·99760	5·65981		6·99596	5·66184		6·99431	5·66388	9
10	04	7·77877	6·28415	03	7·77695	6·28642	02	7·77512	6·28868	01	7·77329	6·29094	00	7·77146	6·29320	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·77696	0·62954	02	0·77678	0·62977	03	0·77659	0·62999	04	0·77641	0·63022	05	0·77623	0·63045	1
2		1·55392	1·25909		1·55356	1·25954		1·55319	1·25999		1·55282	1·26044		1·55246	1·26090	2
3		2·33088	1·88863		2·33034	1·88931		2·32978	1·88999		2·32923	1·89067		2·32869	1·89135	3
4		3·10785	2·51818		3·10712	2·51908		3·10638	2·51999		3·10565	2·52089		3·10492	2·52180	4
5		3·88481	3·14773		3·88390	3·14886		3·88298	3·14999		3·88206	3·15112		3·88115	3·15225	5
6		4·66177	3·77727		4·66068	3·77863		4·65957	3·77998		4·65847	3·78134		4·65738	3·78270	6
7		5·43874	4·40682		5·43746	4·40840		5·43617	4·40998		5·43489	4·41156		5·43361	4·41315	7
8		6·21570	5·03637		6·21424	5·03817		6·21277	5·03998		6·21130	5·04179		6·20984	5·04360	8
9		6·99266	5·66591		6·99102	5·66795		6·98936	5·66998		6·98771	5·67201		6·98607	5·67405	9
10	59	7·76963	6·29546	58	7·76780	6·29772	57	7·76596	6·29998	56	7·76413	6·30224	55	7·76230	6·30450	10
1	11	0·77512	0·63180	12	0·77494	0·63202	13	0·77476	0·63225	14	0·77457	0·63248	15	0·77439	0·63270	1
2		1·55025	1·26360		1·54988	1·26405		1·54952	1·26450		1·54915	1·26496		1·54878	1·26541	2
3		2·32538	1·89541		2·32483	1·89608		2·32428	1·89676		2·32373	1·89744		2·32317	1·89811	3
4		3·10051	2·52721		3·09977	2·52811		3·09904	2·52901		3·09830	2·52992		3·09757	2·53082	4
5		3·87564	3·15902		3·87472	3·16014		3·87380	3·16127		3·87288	3·16240		3·87196	3·16352	5
6		4·65076	3·79082		4·64966	3·79217		4·64856	3·79352		4·64746	3·79488		4·64635	3·79623	6
7		5·42589	4·42262		5·42461	4·42420		5·42332	4·42578		5·42203	4·42736		5·42074	4·42893	7
8		6·20102	5·05443		6·19955	5·05623		6·19808	5·05803		6·19661	5·05984		6·19514	5·06164	8
9		6·97615	5·68623		6·97450	5·68826		6·97284	5·69029		6·97119	5·69232		6·96953	5·69434	9
10	49	7·75128	6·31804	48	7·74944	6·32029	47	7·74760	6·32254	46	7·74576	6·32480	45	7·74392	6·32705	10
1	21	0·77328	0·63405	22	0·77310	0·63428	23	0·77291	0·63450	24	0·77273	0·63473	25	0·77254	0·63495	1
2		1·54657	1·26811		1·54620	1·26856		1·54583	1·26901		1·54546	1·26946		1·54509	1·26991	2
3		2·31986	1·90216		2·31930	1·90284		2·31875	1·90351		2·31820	1·90419		2·31764	1·90486	3
4		3·09314	2·53622		3·09241	2·53712		3·09167	2·53802		3·09093	2·53892		3·09019	2·53982	4
5		3·86643	3·17028		3·86551	3·17140		3·86459	3·17252		3·86366	3·17365		3·86274	3·17478	5
6		4·63972	3·80433		4·63861	3·80568		4·63750	3·80703		4·63640	3·80838		4·63529	3·80973	6
7		5·41301	4·43839		5·41171	4·43996		5·41042	4·44153		5·40913	4·44311		5·40784	4·44468	7
8		6·18629	5·07244		6·18482	5·07424		6·18334	5·07604		6·18186	5·07784		6·18039	5·07964	8
9		6·95958	5·70650		6·95792	5·70852		6·95626	5·71055		6·95460	5·71257		6·95294	5·71459	9
10	39	7·73287	6·34056	38	7·73102	6·34280	37	7·72918	6·34505	36	7·72733	6·34730	35	7·72549	6·34955	10
1	31	0·77143	0·63630	32	0·77125	0·63652	33	0·77106	0·63675	34	0·77088	0·63697	35	0·77069	0·63720	1
2		1·54287	1·27260		1·54250	1·27305		1·54213	1·27350		1·54176	1·27395		1·54139	1·27440	2
3		2·31431	1·90890		2·31376	1·90958		2·31320	1·91025		2·31265	1·91092		2·31209	1·91160	3
4		3·08575	2·54521		3·08501	2·54610		3·08427	2·54700		3·08353	2·54790		3·08279	2·54880	4
5		3·85719	3·18151		3·85627	3·18263		3·85534	3·18375		3·85442	3·18487		3·85349	3·18600	5
6		4·62863	3·81781		4·62752	3·81916		4·62641	3·82050		4·62530	3·82185		4·62419	3·82320	6
7		5·40007	4·45411		5·39878	4·45568		5·39748	4·45725		5·39618	4·45882		5·39489	4·46040	7
8		6·17151	5·09042		6·17003	5·09221		6·16855	5·09401		6·16707	5·09580		6·16558	5·09760	8
9		6·94295	5·72672		6·94128	5·72874		6·93962	5·73076		6·93795	5·73278		6·93628	5·73480	9
10	29	7·71439	6·36302	28	7·71254	6·36527	27	7·71069	6·36751	26	7·70884	6·36975	25	7·70698	6·37200	10
1	41	0·76958	0·63854	42	0·76939	0·63876	43	0·76921	0·63899	44	0·76902	0·63921	45	0·76884	0·63943	1
2		1·53917	1·27708		1·53879	1·27753		1·53842	1·27798		1·53805	1·27843		1·53768	1·27887	2
3		2·30875	1·91563		2·30819	1·91630		2·30764	1·91697		2·30708	1·91764		2·30652	1·91831	3
4		3·07834	2·55417		3·07759	2·55507		3·07685	2·55596		3·07611	2·55686		3·07536	2·55775	4
5		3·84792	3·19272		3·84699	3·19383		3·84606	3·19495		3·84513	3·19607		3·84420	3·19719	5
6		4·61751	3·83126		4·61639	3·83260		4·61528	3·83394		4·61416	3·83529		4·61305	3·83663	6
7		5·38709	4·46980		5·38579	4·47137		5·38449	4·47294		5·38319	4·47450		5·38189	4·47607	7
8		6·15668	5·10835		6·15519	5·11014		6·15370	5·11193		6·15222	5·11372		6·15073	5·11551	8
9		6·92626	5·74689		6·92459	5·74891		6·92292	5·75092		6·92125	5·75293		6·91957	5·75495	9
10	19	7·69585	6·38544	18	7·69399	6·38767	17	7·69213	6·38991	16	7·69027	6·39215	15	7·68841	6·39439	10
1	51	0·76772	0·64078	52	0·76753	0·64100	53	0·76735	0·64122	54	0·76716	0·64145	55	0·76697	0·64167	1
2		1·53544	1·28156		1·53507	1·28200		1·53470	1·28245		1·53433	1·28290		1·53395	1·28334	2
3		2·30317	1·92234		2·30261	1·92300		2·30205	1·92367		2·30149	1·92435		2·30093	1·92501	3
4		3·07089	2·56312		3·07015	2·56401		3·06940	2·56490		3·06866	2·56580		3·06791	2·56669	4
5		3·83862	3·20390		3·83769	3·20501		3·83675	3·20613		3·83582	3·20725		3·83489	3·20836	5
6		4·60634	3·84467		4·60522	3·84601		4·60411	3·84735		4·60299	3·84870		4·60187	3·85003	6
7		5·37407	4·48545		5·37276	4·48702		5·37146	4·48858		5·37015	4·49015		5·36884	4·49170	7
8		6·14179	5·12623		6·14030	5·12802		6·13881	5·12981		6·13732	5·13160		6·13582	5·13338	8
9		6·90952	5·76701		6·90784	5·76902		6·90616	5·77103		6·90448	5·77305		6·90280	5·77505	9
10	09	7·67724	6·40779	08	7·67538	6·41003	07	7·67351	6·41226	06	7·67165	6·41450	05	7·66978	6·41672	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·77604	0·63067	07	0·77586	0·63090	08	0·77567	0·63112	09	0·77549	0·63135	10	0·77531	0·63157	1
2		1·55209	1·26135		1·55172	1·26180		1·55135	1·26225		1·55099	1·26270		1·55062	1·26315	2
3		2·32813	1·89202		2·32758	1·89270		2·32703	1·89338		2·32648	1·89405		2·32593	1·89473	3
4		3·10418	2·52270		3·10345	2·52360		3·10271	2·52450		3·10198	2·52541		3·10124	2·52631	4
5		3·88023	3·15337		3·87931	3·15450		3·87839	3·15563		3·87747	3·15676		3·87656	3·15789	5
6		4·65627	3·78405		4·65517	3·78540		4·65407	3·78676		4·65297	3·78811		4·65187	3·78947	6
7		5·43232	4·41473		5·43104	4·41631		5·42975	4·41789		5·42846	4·41946		5·42718	4·42104	7
8		6·20837	5·04540		6·20690	5·04721		6·20543	5·04901		6·20396	5·05082		6·20249	5·05262	8
9		6·98441	5·67608		6·98276	5·67811		6·98111	5·68014		6·97946	5·68217		6·97780	5·68420	9
10	54	7·76046	6·30675	53	7·75863	6·30901	52	7·75679	6·31127	51	7·75495	6·31352	50	7·75312	6·31578	10
1	16	0·77420	0·63293	17	0·77402	0·63315	18	0·77384	0·63338	19	0·77365	0·63360	20	0·77347	0·63383	1
2		1·54841	1·26586		1·54804	1·26631		1·54768	1·26676		1·54731	1·26721		1·54694	1·26766	2
3		2·32262	1·89879		2·32207	1·89946		2·32152	1·90014		2·32096	1·90081		2·32041	1·90149	3
4		3·09683	2·53172		3·09609	2·53262		3·09536	2·53352		3·09462	2·53442		3·09388	2·53532	4
5		3·87104	3·16465		3·87012	3·16577		3·86920	3·16690		3·86828	3·16803		3·86735	3·16915	5
6		4·64525	3·79758		4·64414	3·79893		4·64304	3·80028		4·64193	3·80163		4·64082	3·80298	6
7		5·41946	4·43051		5·41817	4·43208		5·41688	4·43366		5·41559	4·43524		5·41430	4·43681	7
8		6·19366	5·06344		6·19219	5·06524		6·19072	5·06704		6·18924	5·06884		6·18777	5·07064	8
9		6·96787	5·69637		6·96621	5·69840		6·96456	5·70042		6·96290	5·70245		6·96124	5·70447	9
10	44	7·74208	6·32930	43	7·74024	6·33155	42	7·73840	6·33381	41	7·73656	6·33606	40	7·73471	6·33831	10
1	26	0·77236	0·63518	27	0·77217	0·63540	28	0·77199	0·63562	29	0·77180	0·63585	30	0·77162	0·63607	1
2		1·54472	1·27036		1·54435	1·27080		1·54398	1·27125		1·54361	1·27170		1·54324	1·27215	2
3		2·31709	1·90554		2·31653	1·90621		2·31598	1·90688		2·31542	1·90756		2·31487	1·90823	3
4		3·08945	2·54072		3 08871	2·54161		3·08797	2·54251		3·08723	2·54341		3·08649	2·54431	4
5		3·86182	3·17590		3·86089	3·17702		3 85997	3·17814		3·85904	3·17926		3·85812	3·18039	5
6		4·63418	3·81108		4·63307	3·81242		4·63196	3·81377		4·63085	3·81512		4·62974	3·81646	6
7		5·40654	4·44626		5·40525	4·44783		5·40396	4·44940		5·40266	4·45097		5·40137	4·45254	7
8		6·17891	5·08144		6·17743	5·08323		6·17595	5·08503		6·17447	5·08682		6·17299	5·08862	8
9		6·95127	5·71662		6·94961	5·71864		6·94795	5·72066		6·94628	5·72268		6·94462	5·72470	9
10	34	7·72364	6·35180	33	7·72179	6·35404	32	7·71994	6·35629	31	7·71809	6·35853	30	7·71624	6·36078	10
1	36	0·77051	0·63742	37	0·77032	0·63764	38	0·77014	0·63787	39	0·76995	0·63809	40	0·76977	0·63832	1
2		1·54102	1·27484		1·54065	1·27529		1·54028	1·27574		1·53991	1·27619		1·53954	1·27664	2
3		2·31153	1·91227		2·31098	1·91294		2·31042	1·91361		2·30987	1·91428		2·30931	1·91496	3
4		3·08205	2·54969		3·08131	2·55059		3·08056	2·55148		3·07982	2·55238		3·07908	2·55328	4
5		3·85256	3·18712		3·85163	3·18824		3·85071	3·18936		3·84978	3·19048		3·84885	3·19160	5
6		4·62307	3·82454		4·62196	3·82588		4·62085	3·82723		4·61974	3·82857		4·61862	3·82992	6
7		5·39359	4·46196		5·39229	4·46353		5·39099	4·46510		5·38969	4·46667		5·38839	4·46824	7
8		6·16410	5·09939		6·16262	5·10118		6·16113	5·10297		6·15965	5·10476		6·15816	5·10656	8
9		6·93461	5·73681		6·93295	5·73883		6·93128	5·74084		6·92961	5·74286		6·92793	5·74488	9
10	24	7·70513	6·37424	23	7·70327	6·37648	22	7·70142	6·37872	21	7·69956	6·38096	20	7·69771	6·38320	10
1	46	0·76865	0·63966	47	0·76847	0·63988	48	0·76828	0·64011	49	0·76809	0·64033	50	0·76791	0·64055	1
2		1·53731	1·27932		1·53694	1·27977		1·53656	1·28022		1·53619	1·28066		1·53582	1·28111	2
3		2·30596	1·91898		2·30541	1·91965		2·30485	1·92033		2·30429	1·92099		2·30373	1·92166	3
4		3·07462	2·55865		3·07388	2·55954		3·07313	2·56044		3·07238	2·56133		3·07164	2·56222	4
5		3·84327	3·19831		3·84235	3·19943		3·84141	3·20055		3·84048	3·20166		3·83955	3 20278	5
6		4·61193	3·83797		4·61082	3·83931		4·60970	3·84066		4·60858	3·84199		4·60746	3·84333	6
7		5·38059	4·47763		5·37929	4·47920		5·37798	4·48077		5·37668	4·48233		5·37537	4·48389	7
8		6·14924	5·11730		6·14776	5·11908		6·14626	5·12088		6·14477	5·12266		6·14328	5·12445	8
9		6·91790	5·75696		6·91623	5·75897		6·91455	5·76099		6·91287	5·76299		6·91119	5·76500	9
10	14	7·68655	6·39662	13	7·68470	6·39886	12	7·68283	6·40110	11	7·68097	6·40333	10	7·67911	6·40556	10
1	56	0·76679	0·64189	57	0·76660	0·64211	58	0·76641	0·64234	59	0·76623	0·64256	60	0·76604	0·64278	1
2		1·53358	1·28379		1·53321	1·28423		1·53283	1·28468		1·53246	1·28512		1·53208	1·28557	2
3		2·30037	1·92568		2·29981	1·92635		2·29925	1·92702		2·29869	1·92769		2·29813	1·92836	3
4		3·06716	2·56758		3·06642	2·56847		3·06567	2·56936		3·06492	2·57025		3·06417	2·57115	4
5		3·83395	3·20947		3·83302	3·21059		3·83209	3·21170		3·83115	3·21282		3·83022	3·21393	5
6		4·60075	3·85137		4·59963	3·85271		4·59850	3·85405		4·59738	3·85538		4·59626	3·85672	6
7		5·36754	4·49327		5·36623	4·49483		5·36492	4·49639		5 36361	4·49795		5·36231	4·49951	7
8		6·13433	5·13516		6·13284	5·13695		6·13134	5·13873		6·12985	5·14051		6·12835	5·14230	8
9		6·90112	5·77706		6·89944	5·77907		6·89776	5·78107		6·89608	5·78308		6·89439	5·78508	9
10	04	7·66791	6·41895	03	7·66605	6·42119	02	7·66418	6·42341	01	7·66231	6·42564	00	7·66044	6·42787	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

9

50 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·76585	0·64301	02	0·76567	0·64323	03	0·76548	0·64345	04	0·76529	0·64367	05	0·76510	0·64390	1
2		1·53171	1·28602		1·53134	1·28646		1·53096	1·28691		1·53059	1·28735		1·53021	1·28780	2
3		2·29757	1·92903		2·29701	1·92969		2·29644	1·93036		2·29588	1·93103		2·29532	1·93170	3
4		3·06342	2·57204		3·06268	2·57293		3·06193	2·57382		3·06118	2·57471		3·06043	2·57560	4
5		3·82928	3·21505		3·82835	3·21616		3·82741	3·21728		3·82648	3·21839		3·82554	3·21950	5
6		4·59514	3·85806		4·59402	3·85939		4·59289	3·86073		4·59177	3·86207		4·59065	3·86340	6
7		5·36100	4·50107		5·35969	4·50263		5·35838	4·50419		5·35707	4·50574		5·35576	4·50730	7
8		6·12685	5·14408		6·12536	5·14586		6·12386	5·14764		6·12236	5·14942		6·12086	5·15120	8
9		6·89271	5·78709		6·89103	5·78909		6·88934	5·79110		6·88766	5·79310		6·88597	5·79510	9
10	59	7·65857	6·43010	58	7·65670	6·43233	57	7·65483	6·43456	56	7·65296	6·43678	55	7·65108	6·43901	10
1	11	0·76398	0·64523	12	0·76379	0·64545	13	0·76360	0·64568	14	0·76342	0·64590	15	0·76323	0·64612	1
2		1·52796	1·29047		1·52759	1·29091		1·52721	1·29136		1·52684	1·29180		1·52646	1·29224	2
3		2·29195	1·93570		2·29138	1·93637		2·29082	1·93704		2·29026	1·93770		2·28969	1·93837	3
4		3·05593	2·58094		3·05518	2·58183		3·05443	2·58272		3·05368	2·58360		3·05293	2·58449	4
5		3·81991	3·22617		3·81898	3·22728		3·81804	3·22840		3·81710	3·22951		3·81616	3·23062	5
6		4·58390	3·87141		4·58277	3·87274		4·58164	3·87408		4·58052	3·87541		4·57939	3·87674	6
7		5·34788	4·51664		5·34657	4·51820		5·34525	4·51976		5·34394	4·52131		5·34262	4·52286	7
8		6·11187	5·16188		6·11036	5·16366		6·10886	5·16544		6·10736	5·16721		6·10586	5·16899	8
9		6·87585	5·80711		6·87416	5·80911		6·87247	5·81112		6·87078	5·81311		6·86909	5·81511	9
10	49	7·63983	6·45235	48	7·63796	6·45457	47	7·63608	6·45680	46	7·63420	6·45902	45	7·63232	6·46124	10
1	21	0·76210	0·64745	22	0·76191	0·64767	23	0·76172	0·64789	24	0·76153	0·64812	25	0·76135	0·64834	1
2		1·52420	1·29491		1·52383	1·29535		1·52345	1·29579		1·52307	1·29624		1·52270	1·29668	2
3		2·28631	1·94236		2·28574	1·94303		2·28518	1·94369		2·28461	1·94436		2·28405	1·94502	3
4		3·04841	2·58982		3·04766	2·59070		3·04690	2·59159		3·04615	2·59248		3·04540	2·59336	4
5		3·81051	3·23727		3·80957	3·23838		3·80863	3·23949		3·80769	3·24060		3·80675	3·24170	5
6		4·57262	3·88473		4·57149	3·88606		4·57036	3·88739		4·56922	3·88872		4·56810	3·89004	6
7		5·33472	4·53218		5·33340	4·53373		5·33208	4·53528		5·33076	4·53684		5·32945	4·53838	7
8		6·09682	5·17964		6·09532	5·18141		6·09381	5·18318		6·09230	5·18496		6·09080	5·18673	8
9		6·85893	5·82709		6·85723	5·82909		6·85554	5·83108		6·85384	5·83308		6·85215	5·83507	9
10	39	7·62103	6·47455	38	7·61915	6·47676	37	7·61726	6·47898	36	7·61538	6·48120	35	7·61350	6·48341	10
1	31	0·76021	0·64966	32	0·76002	0·64989	33	0·75983	0·65011	34	0·75965	0·65033	35	0·75946	0·65055	1
2		1·52043	1·29933		1·52005	1·29978		1·51967	1·30022		1·51930	1·30066		1·51892	1·30110	2
3		2·28065	1·94900		2·28008	1·94967		2·27951	1·95033		2·27895	1·95099		2·27838	1·95165	3
4		3·04086	2·59867		3·04011	2·59956		3·03935	2·60044		3·03860	2·60132		3·03784	2·60221	4
5		3·80108	3·24834		3·80014	3·24945		3·79919	3·25055		3·79825	3·25166		3·79730	3·25276	5
6		4·56130	3·89801		4·56016	3·89934		4·55903	3·90066		4·55790	3·90199		4·55676	3·90331	6
7		5·32151	4·54768		5·32019	4·54923		5·31887	4·55077		5·31755	4·55232		5·31622	4·55387	7
8		6·08173	5·19735		6·08022	5·19912		6·07871	5·20089		6·07720	5·20265		6·07568	5·20442	8
9		6·84195	5·84702		6·84025	5·84901		6·83855	5·85100		6·83685	5·85299		6·83514	5·85497	9
10	29	7·60217	6·49669	28	7·60028	6·49890	27	7·59839	6·50111	26	7·59650	6·50332	25	7·59460	6·50553	10
1	41	0·75832	0·65187	42	0·75813	0·65209	43	0·75794	0·65231	44	0·75775	0·65253	45	0·75756	0·65276	1
2		1·51664	1·30375		1·51626	1·30419		1·51588	1·30463		1·51550	1·30507		1·51513	1·30552	2
3		2·27497	1·95563		2·27440	1·95629		2·27383	1·95695		2·27326	1·95761		2·27269	1·95828	3
4		3·03329	2·60751		3·03253	2·60839		3·03177	2·60927		3·03101	2·61015		3·03026	2·61104	4
5		3·79162	3·25938		3·79067	3·26049		3·78972	3·26159		3·78877	3·26269		3·78782	3·26380	5
6		4·54994	3·91126		4·54880	3·91259		4·54766	3·91391		4·54652	3·91523		4·54539	3·91656	6
7		5·30826	4·56314		5·30694	4·56468		5·30561	4·56623		5·30428	4·56777		5·30295	4·56932	7
8		6·06659	5·21502		6·06507	5·21678		6·06355	5·21855		6·06203	5·22031		6·06052	5·22208	8
9		6·82491	5·86690		6·82320	5·86888		6·82150	5·87087		6·81979	5·87285		6·81808	5·87484	9
10	19	7·58324	6·51877	18	7·58134	6·52098	17	7·57944	6·52319	16	7·57754	6·52539	15	7·57565	6·52760	10
1	51	0·75642	0·65408	52	0·75623	0·65430	53	0·75604	0·65452	54	0·75585	0·65474	55	0·75566	0·65496	1
2		1·51284	1·30816		1·51246	1·30860		1·51208	1·30904		1·51170	1·30948		1·51132	1·30992	2
3		2·26927	1·96224		2·26870	1·96290		2·26813	1·96356		2·26756	1·96422		2·26698	1·96488	3
4		3·02569	2·61632		3·02493	2·61720		3·02417	2·61808		3·02341	2·61896		3·02265	2·61984	4
5		3·78212	3·27040		3·78117	3·27150		3·78022	3·27260		3·77926	3·27370		3·77831	3·27480	5
6		4·53854	3·92448		4·53740	3·92580		4·53626	3·92712		4·53512	3·92844		4·53397	3·92976	6
7		5·29497	4·57856		5·29364	4·58010		5·29230	4·58164		5·29097	4·58318		5·28964	4·58472	7
8		6·05139	5·23264		6·04987	5·23440		6·04835	5·23616		6·04682	5·23792		6·04530	5·23968	8
9		6·80782	5·88672		6·80610	5·88870		6·80439	5·89068		6·80268	5·89266		6·80096	5·89464	9
10	09	7·56424	6·54081	08	7·56234	6·54301	07	7·56044	6·54521	06	7·55853	6·54740	05	7·55663	6·54960	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

40 DEG. DIFFERENCE OF LATITUDE AND DEPARTURE.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·76492	0·64412	07	0·76473	0·64434	08	0·76454	0·64456	09	0·76435	0·64479	10	0·76417	0·64501	1
2		1·52984	1·28824		1·52946	1·28869		1·52909	1·28913		1·52871	1·28958		1·52834	1·29002	2
3		2·29476	1·93237		2·29420	1·93303		2·29363	1·93370		2·29307	1·93437		2·29251	1·93503	3
4		3·05968	2·57649		3·05893	2·57738		3·05818	2·57827		3·05743	2·57916		3·05668	2·58005	4
5		3·82460	3·22061		3·82367	3·22173		3·82273	3·22284		3·82179	3·22395		3·82085	3·22506	5
6		4·58952	3·86474		4·58840	3·86607		4·58727	3·86741		4·58615	3·86874		4·58502	3·87007	6
7		5·35444	4·50886		5·35313	4·51042		5·35182	4·51197		5·35051	4·51353		5·34919	4·51509	7
8		6·11937	5·15298		6·11787	5·15476		6·11637	5·15654		6·11487	5·15832		6·11337	5·16010	8
9		6·88429	5·79711		6·88260	5·79911		6·88091	5·80111		6·87923	5·80311		6·87754	5·80511	9
10	54	7·64921	6·44123	53	7·64734	6·44346	52	7·64546	6·44568	51	7·64359	6·44791	50	7·64171	6·45013	10
1	16	0·76304	0·64634	17	0·76285	0·64656	18	0·76266	0·64679	19	0·76248	0·64701	20	0·76229	0·64723	1
2		1·52608	1·29269		1·52571	1·29313		1·52533	1·29358		1·52496	1·29402		1·52458	1·29446	2
3		2·28913	1·93903		2·28856	1·93970		2·28800	1·94037		2·28744	1·94103		2·28687	1·94170	3
4		3·05217	2·58538		3·05142	2·58627		3·05067	2·58716		3·04992	2·58804		3·04916	2·58893	4
5		3·81522	3·23173		3·81428	3·23284		3·81334	3·23395		3·81240	3·23505		3·81146	3·23616	5
6		4·57826	3·87807		4·57713	3·87940		4·57600	3·88074		4·57488	3·88206		4·57375	3·88340	6
7		5·34131	4·52442		5·33999	4·52597		5·33867	4·52753		5·33736	4·52908		5·33604	4·53063	7
8		6·10435	5·17076		6·10285	5·17254		6·10134	5·17432		6·09984	5·17609		6·09833	5·17786	8
9		6·86740	5·81711		6·86570	5·81911		6·86401	5·82111		6·86232	5·82310		6·86062	5·82510	9
10	44	7·63044	6·46346	43	7·62856	6·46568	42	7·62668	6·46790	41	7·62480	6·47011	40	7·62292	6·47233	10
1	26	0·76116	0·64856	27	0·76097	0·64878	28	0·76078	0·64900	29	0·76059	0·64922	30	0·76040	0·64944	1
2		1·52232	1·29712		1·52194	1·29756		1·52156	1·29801		1·52118	1·29845		1·52081	1·29889	2
3		2·28348	1·94568		2·28291	1·94635		2·28235	1·94701		2·28178	1·94768		2·28121	1·94834	3
4		3·04464	2·59425		3·04388	2·59513		3·04313	2·59602		3·04237	2·59690		3·04162	2·59779	4
5		3·80580	3·24281		3·80486	3·24392		3·80391	3·24502		3·80297	3·24613		3·80203	3·24724	5
6		4·56696	3·89137		4·56583	3·89270		4·56470	3·89403		4·56356	3·89536		4·56243	3·89668	6
7		5·32812	4·53993		5·32680	4·54148		5·32548	4·54303		5·32416	4·54458		5·32284	4·54613	7
8		6·08928	5·18850		6·08777	5·19027		6·08626	5·19204		6·08475	5·19381		6·08324	5·19558	8
9		6·85044	5·83706		6·84875	5·83905		6·84705	5·84105		6·84535	5·84304		6·84365	5·84503	9
10	34	7·61161	6·48562	33	7·60972	6·48784	32	7·60783	6·49005	31	7·60595	6·49226	30	7·60406	6·49448	10
1	36	0·75927	0·65077	37	0·75908	0·65099	38	0·75889	0·65121	39	0·75870	0·65143	40	0·75851	0·65165	1
2		1·51854	1·30154		1·51816	1·30199		1·51778	1·30243		1·51740	1·30287		1·51702	1·30331	2
3		2·27781	1·95232		2·27724	1·95298		2·27667	1·95364		2·27610	1·95430		2·27554	1·95497	3
4		3·03708	2·60309		3·03632	2·60398		3·03557	2·60486		3·03481	2·60574		3·03405	2·60662	4
5		3·79635	3·25387		3·79541	3·25497		3·79446	3·25607		3·79351	3·25718		3·79256	3·25828	5
6		4·55562	3·90464		4·55449	3·90597		4·55335	3·90729		4·55221	3·90861		4·55108	3·90994	6
7		5·31489	4·55541		5·31357	4·55696		5·31224	4·55851		5·31092	4·56005		5·30959	4·56160	7
8		6·07417	5·20619		6·07265	5·20796		6·07114	5·20972		6·06962	5·21149		6·06810	5·21325	8
9		6·83344	5·85696		6·83173	5·85895		6·83003	5·86094		6·82832	5·86292		6·82662	5·86491	9
10	24	7·59271	6·50774	23	7·59082	6·50995	22	7·58892	6·51215	21	7·58703	6·51436	20	7·58513	6·51657	10
1	46	0·75737	0·65298	47	0·75718	0·65320	48	0·75699	0·65342	49	0·75680	0·65364	50	0·75661	0·65386	1
2		1·51475	1·30596		1·51437	1·30640		1·51399	1·30684		1·51361	1·30728		1·51322	1·30772	2
3		2·27212	1·95894		2·27155	1·95960		2·27098	1·96026		2·27041	1·96092		2·26984	1·96158	3
4		3·02950	2·61192		3·02874	2·61280		3·02798	2·61368		3·02722	2·61456		3·02645	2·61544	4
5		3·78687	3·26490		3·78592	3·26600		3·78497	3·26710		3·78402	3·26820		3·78307	3·26930	5
6		4·54425	3·91788		4·54311	3·91920		4·54197	3·92052		4·54083	3·92184		4·53968	3·92316	6
7		5·30162	4·57086		5·30029	4·57240		5·29896	4·57394		5·29763	4·57548		5·29630	4·57702	7
8		6·05900	5·22384		6·05748	5·22560		6·05596	5·22736		6·05444	5·22912		6·05291	5·23088	8
9		6·81637	5·87682		6·81466	5·87880		6·81295	5·88078		6·81124	5·88276		6·80953	5·88474	9
10	14	7·57375	6·52980	13	7·57185	6·53200	12	7·56995	6·53420	11	7·56805	6·53640	10	7·56614	6·53861	10
1	56	0·75547	0·65518	57	0·75528	0·65540	58	0·75509	0·65562	59	0·75490	0·65583	60	0·75470	0·65605	1
2		1·51094	1·31036		1·51056	1·31080		1·51018	1·31124		1·50980	1·31167		1·50941	1·31211	2
3		2·26641	1·96554		2·26584	1·96620		2·26527	1·96686		2·26470	1·96751		2·26412	1·96817	3
4		3·02188	2·62072		3·02112	2·62160		3·02036	2·62248		3·01960	2·62335		3·01883	2·62423	4
5		3·77736	3·27590		3·77640	3·27700		3·77545	3·27810		3·77450	3·27919		3·77354	3·28029	5
6		4·53283	3·93108		4·53169	3·93240		4·53054	3·93372		4·52940	3·93503		4·52825	3·93635	6
7		5·28830	4·58626		5·28697	4·58780		5·28563	4·58934		5·28430	4·59087		5·28296	4·59241	7
8		6·04377	5·24144		6·04225	5·24320		6·04072	5·24496		6·03920	5·24671		6·03767	5·24847	8
9		6·79925	5·89662		6·79753	5·89860		6·79581	5·90058		6·79410	5·90255		6·79238	5·90453	9
10	04	7·55472	6·55180	03	7·55281	6·55400	02	7·55091	6·55620	01	7·54900	6·55839	00	7·54709	6·56059	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

49 DEG.

DEG. 41.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·75451	0·65627	02	0·75432	0·65649	03	0·75413	0·65671	04	0·75394	0·65693	05	0·75375	0·65715	1
2		1·50903	1·31255		1·50865	1·31299		1·50827	1·31343		1·50789	1·31387		1·50750	1·31431	2
3		2·26355	1·96883		2·26298	1·96949		2·26241	1·97015		2·26183	1·97081		2·26126	1·97146	3
4		3·01807	2·62511		3·01731	2·62599		3·01654	2·62686		3·01578	2·62774		3·01501	2·62862	4
5		3·77259	3·28139		3·77163	3·28249		3·77068	3·28358		3·76972	3·28468		3·76877	3·28578	5
6		4·52711	3·93767		4·52596	3·93898		4·52482	3·94030		4·52367	3·94162		4·52252	3·94293	6
7		5·28163	4·59394		5·28029	4·59548		5·27895	4·59702		5·27761	4·59855		5·27628	4·60009	7
8		6·03614	5·25022		6·03462	5·25198		6·03309	5·25373		6·03156	5·25549		6·03003	5·25724	8
9		6·79066	5·90650		6·78895	5·90848		6·78723	5·91045		6·78551	5·91243		6·78379	5·91440	9
10	59	7·54518	6·56278	58	7·54327	6·56498	57	7·54136	6·56717	56	7·53945	6·56936	55	7·53754	6·57156	10
1	11	0·75260	0·65847	12	0·75241	0·65868	13	0·75222	0·65890	14	0·75203	0·65912	15	0·75184	0·65934	1
2		1·50521	1·31694		1·50482	1·31737		1·50444	1·31781		1·50406	1·31825		1·50368	1·31869	2
3		2·25781	1·97541		2·25724	1·97606		2·25666	1·97672		2·25609	1·97738		2·25552	1·97803	3
4		3·01042	2·63388		3·00965	2·63475		3·00889	2·63563		3·00812	2·63650		3·00736	2·63738	4
5		3·76303	3·29235		3·76207	3·29344		3·76111	3·29454		3·76015	3·29563		3·75920	3·29672	5
6		4·51563	3·95082		4·51448	3·95213		4·51333	3·95344		4·51218	3·95476		4·51104	3·95607	6
7		5·26824	4·60929		5·26690	4·61082		5·26556	4·61235		5·26422	4·61388		5·26288	4·61542	7
8		6·02085	5·26776		6·01931	5·26951		6·01778	5·27126		6·01625	5·27301		6·01472	5·27476	8
9		6·77345	5·92623		6·77173	5·92820		6·77000	5·93017		6·76828	5·93214		6·76656	5·93411	9
10	49	7·52606	6·58470	48	7·52415	6·58689	47	7·52223	6·58908	46	7·52031	6·59127	45	7·51840	6·59345	10
1	21	0·75068	0·66065	22	0·75049	0·66087	23	0·75030	0·66109	24	0·75011	0·66131	25	0·74991	0·66153	1
2		1·50137	1·32131		1·50099	1·32175		1·50060	1·32218		1·50022	1·32262		1·49983	1·32306	2
3		2·25206	1·98197		2·25148	1·98262		2·25091	1·98328		2·25033	1·98393		2·24975	1·98459	3
4		3·00275	2·64262		3·00198	2·64350		3·00121	2·64437		3·00044	2·64524		2·99967	2·64612	4
5		3·75344	3·30328		3·75247	3·30437		3·75151	3·30546		3·75055	3·30656		3·74959	3·30765	5
6		4·50412	3·96394		4·50297	3·96525		4·50182	3·96656		4·50066	3·96787		4·49951	3·96918	6
7		5·25481	4·62459		5·25346	4·62612		5·25212	4·62765		5·25077	4·62918		5·24943	4·63071	7
8		6·00550	5·28525		6·00396	5·28700		6·00242	5·28874		6·00088	5·29049		5·99934	5·29224	8
9		6·75619	5·94591		6·75446	5·94787		6·75273	5·94984		6·75099	5·95180		6·74926	5·95377	9
10	39	7·50688	6·60657	38	7·50495	6·60875	37	7·50303	6·61093	36	7·50111	6·61312	35	7·49918	6·61530	10
1	31	0·74876	0·66283	32	0·74857	0·66305	33	0·74837	0 66327	34	0·74818	0·66349	35	0·74799	0·66370	1
2		1·49752	1·32567		1·49714	1·32611		1·49675	1·32654		1·49636	1·32698		1·49598	1·32741	2
3		2·24628	1·98851		2·24571	1·98916		2·24513	1·98982		2·24455	1·99047		2·24397	1·99112	3
4		2·99505	2·65135		2·99428	2·65222		2·99350	2·65309		2·99273	2·65396		2·99196	2·65483	4
5		3·74381	3·31419		3·74285	3·31527		3·74188	3·31636		3·74092	3·31745		3·73995	3·31854	5
6		4·49257	3·97702		4·49142	3·97833		4·49026	3·97964		4·48910	3·98094		4·48794	3·98225	6
7		5·24134	4·63986		5·23999	4·64138		5·23864	4·64291		5·23728	4·64443		5·23593	4·64596	7
8		5·99010	5·30270		5·98856	5·30444		5·98701	5·30618		5·98547	5·30792		5·98392	5·30966	8
9		6·73886	5·96554		6·73713	5·96750		6·73539	5·96946		6·73365	5·97141		6·73192	5·97337	9
10	29	7·48763	6·62838	28	7·48570	6·63055	27	7·48377	6·63273	26	7·48184	6·63491	25	7·47991	6·63708	10
1	41	0·74683	0·66501	42	0·74663	0·66523	43	0·74644	0·66544	44	0·74625	0·66566	45	0·74605	0·66588	1
2		1·49366	1·33002		1·49327	1·33046		1·49288	1·33089		1·49250	1·33132		1·49211	1·33176	2
3		2·24049	1·99503		2·23991	1·99569		2·23933	1·99634		2·23875	1·99699		2·23817	1·99764	3
4		2·98732	2·66005		2·98655	2·66092		2·98577	2·66179		2·98500	2·66265		2·98422	2·66352	4
5		3·73415	3·32506		3·73319	3·32615		3·73222	3·32723		3·73125	3·32832		3·73028	3·32940	5
6		4·48099	3·99007		4·47982	3·99138		4·47866	3·99268		4·47750	3·99398		4·47634	3·99529	6
7		5 22782	4·65509		5·22646	4·65661		5·22511	4·65813		5·22375	4·65965		5·22240	4·66117	7
8		5·97465	5·32010		5·97310	5·32184		5·97155	5·32358		5·97000	5·32531		5·96845	5·32705	8
9		6·72148	5·98511		6·71974	5·98707		6·71800	5·98902		6·71625	5·99098		6·71451	5·99293	9
10	19	7·46831	6·65013	18	7·46638	6·65230	17	7·46444	6·65447	16	7·46251	6·65664	15	7·46057	6·65881	10
1	51	0·74489	0·66718	52	0·74470	0·66739	53	0·74450	0·66761	54	0·74431	0·66783	55	0·74411	0 66804	1
2		1·48978	1·33436		1·48940	1·33479		1·48901	1·33523		1·48862	1·33566		1·48823	1·33609	2
3		2·23468	2·00154		2·23410	2·00219		2·23351	2·00284		2·23293	2·00349		2·23235	2·00414	3
4		2·97957	2 66873		2·97880	2·66959		2·97802	2·67046		2·97724	2·67133		2·97646	2·67219	4
5		3·72447	3·33591		3·72350	3·33699		3·72252	3·33808		3·72155	3·33916		3·72058	3·34024	5
6		4·46936	4·00309		4·46820	4·00439		4·46703	4·00569		4·46586	4·00699		4·46470	4·00829	6
7		5·21425	4·67027		5·21290	4·67179		5·21154	4·67331		5·21018	4·67482		5·20882	4·67634	7
8		5·95915	5·33746		5·95760	5·33919		5·95604	5·34092		5·95449	5·34266		5·95293	5·34439	8
9		6·70404	6·00464		6·70230	6·00659		6·70055	6·00854		6·69880	6·01049		6·69705	6·01244	9
10	09	7·44894	6·67182	08	7·44700	6·67399	07	7·44505	6·67616	06	7·44311	6·67832	05	7·44117	6·68049	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 48.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·75356	0·65737	07	0·75337	0·65759	08	0·75318	0·65781	09	0·75298	0·65803	10	0·75279	0·65825	1
2		1·50712	1·31475		1·50674	1·31518		1·50636	1·31562		1·50597	1·31606		1·50559	1·31650	2
3		2·26069	1·97212		2·26011	1·97278		2·25954	1·97344		2·25896	1·97409		2·25839	1·97475	3
4		3·01425	2·62950		3·01348	2·63037		3·01272	2·63125		3·01195	2·63213		3·01119	2·63300	4
5		3·76781	3·28687		3·76686	3·28797		3·76590	3·28906		3·76494	3·29016		3·76399	3·29125	5
6		4·52138	3·94425		4·52023	3·94556		4·51908	3·94688		4·51793	3·94819		4·51678	3·94950	6
7		5·27494	4·60162		5·27360	4·60316		5·27226	4·60469		5·27092	4·60622		5·26958	4 60776	7
8		6·02850	5·25900		6·02697	5·26075		6·02544	5·26250		6·02391	5·26426		6·02238	5·26601	8
9		6·78207	5·91637		6·78034	5·91834		6·77862	5·92032		6·77690	5·92229		6·77518	5·92426	9
10	54	7·53563	6·57375	53	7·53372	6·57594	52	7·53180	6·57813	51	7·52989	6·58032	50	7·52798	6·58251	10
1	16	0·75164	0·65956	17	0·75145	0·65978	18	0·75126	0·66000	19	0·75107	0·66022	20	0·75088	0·66043	1
2		1·50329	1·31912		1·50291	1·31956		1·50252	1·32000		1·50214	1·32044		1·50176	1·32087	2
3		2·25494	1·97869		2·25436	1·97934		2·25379	1·98000		2·25321	1·98066		2·25264	1·98131	3
4		3·00659	2·63825		3·00582	2·63913		3·00505	2·64000		3·00428	2·64088		3·00352	2·64175	4
5		3·75824	3·29782		3·75728	3·29891		3·75632	3·30000		3·75536	3·30110		3·75440	3·30219	5
6		4·50988	3·95738		4·50873	3·95869		4·50758	3·96001		4·50643	3·96132		4·50528	3·96263	6
7		5·26153	4·61695		5·26019	4·61848		5·25884	4·62001		5·25750	4·62154		5·25616	4·62307	7
8		6·01318	5·27651		6·01164	5·27826		6·01011	5·28001		6·00857	5·28176		6·00704	5·28350	8
9		6·76483	5·93608		6·76310	5·93804		6·76137	5·94001		6·75964	5·94198		6·75792	5·94394	9
10	44	7·51648	6·59564	43	7·51456	6·59783	42	7·51264	6·60001	41	7·51072	6·60220	40	7·50880	6·60438	10
1	26	0·74972	0·66174	27	0·74953	0·66196	28	0·74934	0·66218	29	0·74914	0·66240	30	0·74895	0·66262	1
2		1·49945	1·32349		1·49906	1·32393		1·49868	1·32436		1·49829	1·32480		1·49791	1·32524	2
3		2·24917	1·98524		2·24860	1·98589		2·24802	1·98655		2·24744	1·98720		2·24686	1·98786	3
4		2·99890	2·64699		2·99813	2·64786		2·99736	2·64873		2·99659	2·64960		2·99582	2·65048	4
5		3·74863	3·30874		3·74766	3·30983		3·74670	3·31092		3·74574	3·31201		3·74477	3·31310	5
6		4·49835	3·97048		4·49720	3·97179		4·49604	3·97310		4·49489	3·97441		4·49373	3·97572	6
7		5·24808	4 63223		5·24673	4·63376		5·24538	4·63528		5·24403	4·63681		5·24268	4·63834	7
8		5·99780	5·29398		5·99626	5·29572		5·99472	5·29747		5·99318	5·29921		5·99164	5·30096	8
9		6·74753	5·95573		6·74580	5·95769		6·74406	5·95965		6·74233	5·96161		6·74060	5·96358	9
10	34	7·49726	6·61748	33	7·49533	6·61966	32	7·49341	6·62184	31	7·49148	6·62402	30	7·48955	6·62620	10
1	36	0·74779	0·66392	37	0·74760	0·66414	38	0·74741	0·66436	39	0·74721	0·66457	40	0·74702	0·66479	1
2		1·49559	1·32785		1·49520	1·32828		1·49482	1·32872		1·49443	1·32915		1·49405	1·32959	2
3		2·24339	1·99177		2·24281	1·99243		2·24223	1·99308		2·24165	1·99373		2·24107	1·99438	3
4		2·99119	2·65570		2·99041	2·65657		2·98964	2·65744		2·98887	2·65831		2·98810	2·65918	4
5		3·73899	3·31963		3·73802	3·32071		3·73705	3·32180		3·73609	3·32289		3·73512	3·32398	5
6		4·48678	3·98355		4·48562	3·98486		4·48447	3·98616		4·48331	3·98747		4·48215	3·98877	6
7		5·23458	4·64748		5·23323	4·64900		5·23188	4·65052		5·23052	4·65204		5·22917	4·65357	7
8		5·98238	5·31140		5·98083	5·31314		5·97929	5·31488		5·97774	5·31662		5·97620	5·31836	8
9		6·73018	5·97533		6·72844	5·97729		6·72670	5·97925		6 72496	5·98120		6·72322	5·98316	9
10	24	7·47798	6·63926	23	7·47605	6·64143	22	7·47411	6·64361	21	7·47218	6·64578	20	7·47025	6·64796	10
1	46	0·74586	0·66609	47	0·74567	0·66631	48	0·74547	0·66653	49	0·74528	0·66674	50	0·74508	0·66696	1
2		1·49172	1·33219		1·49134	1·33263		1·49095	1·33306		1·49056	1·33349		1·49017	1·33393	2
3		2·23759	1·99829		2·23701	1·99894		2·23642	1·99959		2·23584	2·00024		2·23526	2·00089	3
4		2·98345	2·66439		2·98268	2·66526		2·98190	2·66613		2·98112	2·66699		2·98035	2·66786	4
5		3·72931	3·33049		3·72835	3·33157		3·72738	3·33266		3·72641	3·33374		3·72544	3·33483	5
6		4·47518	3·99659		4·47402	3·99789		4·47285	3·99919		4·47169	4·00049		4·47052	4·00179	6
7		5·22104	4·66269		5·21969	4·66420		5·21833	4·66572		5·21697	4·66724		5·21561	4·66876	7
8		5·96690	5·32878		5·96536	5·33052		5·96380	5·33226		5·96225	5·33399		5·96070	5·33572	8
9		6·71277	5·99488		6·71103	5·99684		6·70928	5·99879		6·70753	6·00074		6·70579	6·00269	9
10	14	7·45863	6·66098	13	7·45670	6·66315	12	7·45476	6·66532	11	7·45282	6·66749	10	7·45088	6 66966	10
1	56	0·74392	0·66826	57	0·74372	0·66848	58	0·74353	0·66869	59	0·74333	0·66891	60	0·74314	0·66913	1
2		1·48784	1·33653		1·48745	1·33696		1·48706	1·33739		1·48667	1·33782		1·48628	1·33826	2
3		2·23176	2·00479		2·23118	2·00544		2·23060	2·00609		2·23001	2·00674		2·22943	2·00739	3
4		2·97569	2·67306		2·97491	2 67392		2·97413	2·67479		2·97335	2·67565		2·97257	2·67652	4
5		3·71961	3·34132		3·71864	3·34240		3·71767	3·34349		3·71669	3·34457		3·71572	3·34565	5
6		4·46353	4·00959		4·46237	4·01089		4·46120	4·01218		4·46003	4·01348		4·45886	4·01478	6
7		5·20746	4·67785		5·20609	4·67937		5·20473	4·68088		5·20337	4·68240		5·20201	4·68391	7
8		5·95138	5·34612		5·94982	5·34785		5·94827	5·34958		5·94671	5·35131		5·94515	5·35304	8
9		6·69530	6·01438		6·69355	6·01633		6·69180	6·01828		6·69005	6·02022		6·68830	6·02217	9
10	04	7·43923	6·68265	03	7·43728	6·68481	02	7·43534	6·68698	01	7·43339	6·68914	00	7·43144	6·69130	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

48 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·74295	0·66934	02	0·74275	0·66956	03	0·74256	0·66977	04	0·74236	0·66999	05	0·74217	0·67021	1
2		1·48590	1·33869		1·48551	1·33912		1·48512	1·33955		1·48473	1·33998		1·48434	1·34042	2
3		2·22885	2·00804		2·22826	2·00868		2·22768	2·00933		2·22709	2·00998		2·22651	2·01063	3
4		2·97180	2·67738		2·97102	2·67825		2·97024	2 67911		2·96946	2·67997		2·96868	2·68084	4
5		3·71475	3·34673		3·71377	3·34781		3·71280	3·34889		3·71182	3·34997		3·71085	3·35105	5
6		4·45770	4·01608		4·45653	4·01737		4·45536	4·01867		4·45419	4·01996		4·45302	4·02126	6
7		5·20065	4·68542		5·19928	4·68693		5·19792	4·68845		5·19656	4·68996		5·19519	4·69147	7
8		5·94360	5·35477		5·94204	5·35650		5·94048	5·35823		5·93892	5·35995		5·93736	5·36168	8
9		6·68655	6·02412		6·68479	6·02606		6·68304	6·02801		6·68129	6·02995		6·67953	6·03189	9
10	59	7·42950	6·69346	58	7·42755	6·69562	57	7·42560	6·69779	56	7·42365	6·69994	55	7·42170	6·70210	10
1	11	0·74100	0·67150	12	0·74080	0·67172	13	0·74060	0·67193	14	0·74041	0·67215	15	0·74021	0·67236	1
2		1·48200	1·34301		1·48160	1·34344		1·48121	1·34387		1·48082	1·34430		1·48043	1·34473	2
3		2·22300	2·01451		2·22241	2·01516		2·22182	2·01580		2·22124	2·01645		2·22065	2·01710	3
4		2·96400	2·68602		2·96321	2·68688		2·96243	2·68774		2·96165	2·68860		2·96087	2·68946	4
5		3·70500	3·35752		3·70402	3·35860		3·70304	3·35968		3·70206	3·36075		3·70109	3·36183	5
6		4·44600	4·02903		4·44482	4·03032		4·44365	4·03161		4·44248	4·03290		4·44130	4·03420	6
7		5·18700	4·70053		5·18563	4·70204		5·18426	4·70355		5·18289	4·70506		5·18152	4·70656	7
8		5·92800	5·37204		5·92643	5·37376		5·92487	5·37548		5·92330	5·37721		5·92174	5·37893	8
9		6·66900	6·04354		6·66724	6·04548		6·66548	6·04742		6·66372	6·04936		6·66196	6·05130	9
10	49	7·41000	6·71505	48	7·40804	6·71720	47	7·40609	6·71936	46	7·40413	6·72151	45	7·40218	6·72366	10
1	21	0·73904	0·67365	22	0·73884	0·67387	23	0·73865	0·67408	24	0·73845	0·67430	25	0·73825	0·67451	1
2		1·47808	1·34731		1·47769	1·34774		1·47730	1·34817		1·47691	1·34860		1·47651	1·34903	2
3		2·21713	2·02097		2·21654	2·02161		2·21595	2·02226		2·21536	2·02290		2·21477	2·02355	3
4		2·95617	2·69463		2·95539	2·69549		2·95460	2·69635		2·95382	2·69720		2·95303	2·69806	4
5		3·69521	3·36828		3·69423	3·36936		3·69325	3·37043		3·69227	3·37151		3·69129	3·37258	5
6		4·43426	4·04194		4·43308	4·04323		4·43190	4·04452		4·43073	4·04581		4·42955	4·04710	6
7		5·17330	4·71560		5·17193	4·71710		5·17056	4·71861		5·16918	4·72011		5·16781	4·72162	7
8		5·91234	5·38926		5·91078	5·39098		5·90921	5·39270		5·90764	5·39441		5·90607	5·39613	8
9		6·65139	6 06291		6·64962	6·06485		6·64786	6·06678		6·64609	6·06872		6·64433	6·07065	9
10	39	7·39043	6·73657	38	7·38847	6·73872	37	7·38651	6·74087	36	7·38455	6·74302	35	7·38259	6·74517	10
1	31	0·73708	0·67580	32	0·73688	0·67601	33	0·73668	0·67623	34	0·73649	0·67644	35	0·73629	0·67666	1
2		1·47416	1·35160		1·47376	1·35203		1·47337	1·35246		1·47298	1·35289		1·47258	1·35332	2
3		2·21124	2·02741		2·21065	2·02805		2·21006	2·02869		2·20947	2·02934		2·20888	2·02998	3
4		2·94832	2·70321		2·94753	2·70407		2·94675	2·70493		2·94596	2·70579		2·94517	2·70664	4
5		3·68540	3·37902		3·68442	3·38009		3·68343	3·38116		3·68245	3·38223		3·68147	3·38330	5
6		4·42248	4·05482		4·42130	4·05611		4·42012	4·05739		4·41894	4·05868		4·41776	4·05997	6
7		5·15956	4·73063		5·15818	4·73213		5·15681	4·73363		5·15543	4·73513		5·15405	4·73663	7
8		5·89664	5·40643		5·89507	5·40815		5·89350	5·40986		5·89192	5·41158		5·89035	5·41329	8
9		6·63372	6·08224		6·63195	6·08417		6·63018	6·08609		6·62841	6·08802		6·62664	6·08995	9
10	29	7·37080	6·75804	28	7·36884	6·76019	27	7·36687	6·76233	26	7·36490	6·76447	25	7·36294	6·76661	10
1	41	0·73511	0·67794	42	0·73491	0·67816	43	0·73471	0·67837	44	0·73452	0·67858	45	0·73432	0·67880	1
2		1·47022	1·35589		1·46982	1·35632		1·46943	1·35674		1·46904	1·35717		1·46864	1·35760	2
3		2·20533	2·03383		2·20474	2·03448		2·20415	2·03512		2·20356	2·03576		2·20296	2·03640	3
4		2·94044	2·71178		2·93965	2·71264		2·93886	2·71349		2·93808	2·71434		2·93729	2·71520	4
5		3·67555	3·38973		3·67457	3·39080		3·67358	3·39186		3·67260	3·39293		3·67161	3·39400	5
6		4·41067	4 06767		4·40948	4·06896		4·40830	4·07024		4·40712	4·07152		4·40593	4·07280	6
7		5·14578	4·74562		5·14440	4·74712		5·14302	4·74861		5·14164	4·75010		5·14025	4·75160	7
8		5·88089	5·42356		5·87931	5·42528		5·87773	5·42698		5·87616	5·42869		5·87458	5·43040	8
9		6·61600	6·10151		6·61423	6·10344		6·61245	6·10536		6·61068	6·10728		6·60890	6·10920	9
10	19	7·35111	6·77946	18	7·34914	6·78160	17	7·34717	6·78373	16	7·34520	6·78587	15	7·34322	6·78800	10
1	51	0·73313	0·68008	52	0·73293	0·68029	53	0·73274	0·68050	54	0·73254	0·68072	55	0·73234	0·68093	1
2		1·46627	1·36016		1·46587	1·36058		1·46548	1·36101		1·46508	1·36144		1·46468	1·36186	2
3		2·19941	2·04024		2·19881	2·04088		2·19822	2·04152		2·19762	2·04216		2·19703	2·04280	3
4		2 93254	2·72032		2·93175	2·72117		2·93096	2·72203		2·93017	2·72288		2·92937	2·72373	4
5		3·66568	3·40040		3·66469	3·40147		3·66370	3·40253		3·66271	3·40360		3·66172	3·40466	5
6		4·39882	4·08048		4·39763	4·08176		4·39644	4·08304		4·39525	4·08432		4·39406	4·08560	6
7		5·13195	4·76056		5·13057	4·76206		5·12918	4·76355		5·12780	4·76504		5·12641	4·76653	7
8		5·86509	5·44065		5·86351	5·44235		5·86192	5·44406		5·86034	5·44576		5·85875	5·44747	8
9		6·59823	6·12073		6·59644	6·12265		6·59466	6·12457		6·59288	6·12648		6·59110	6·12840	9
10	09	7·33136	6·80081	08	7·32938	6·80294	07	7·32741	6·80507	06	7·32543	6·80721	05	7·32345	6·80934	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

42 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·74197	0·67042	07	0·74178	0·67064	08	0·74158	0·67085	09	0·74139	0·67107	10	0·74119	0·67128	1
2		1·48395	1·34085		1·48356	1·34128		1·48317	1·34171		1·48278	1·34214		1·48239	1·34257	2
3		2·22592	2·01127		2·22534	2·01192		2·22475	2·01257		2·22417	2·01322		2·22358	2·01386	3
4		2·96790	2·68170		2·96712	2·68256		2·96634	2·68343		2·96556	2·68429		2·96478	2·68515	4
5		3·70987	3·35213		3·70890	3·35321		3·70792	3·35429		3·70695	3·35536		3·70597	3·35644	5
6		4·45185	4·02255		4·45068	4·02385		4·44951	4·02514		4·44834	4·02644		4·44717	4·02773	6
7		5·19383	4·69298		5·19246	4·69449		5·19109	4·69600		5·18973	4·69751		5·18836	4·69902	7
8		5·93580	5·36341		5·93424	5·36513		5·93268	5·36686		5·93112	5·36859		5·92956	5·37031	8
9		6·67778	6·03383		6·67602	6·03578		6·67427	6·03772		6·67251	6·03966		6·67075	6·04160	9
10	54	7·41975	6·70426	53	7·41780	6·70642	52	7·41585	6·70858	51	7·41390	6·71074	50	7·41195	6·71289	10
1	16	0·74002	0·67258	17	0·73982	0·67279	18	0·73963	0·67301	19	0·73943	0·67322	20	0·73923	0·67344	1
2		1·48004	1·34516		1·47965	1·34559		1·47926	1·34602		1·47886	1·34645		1·47847	1·34688	2
3		2·22006	2·01774		2·21948	2·01839		2·21889	2·01903		2·21830	2·01968		2·21771	2·02032	3
4		2·96009	2·69032		2·95930	2·69118		2·95852	2·69205		2·95774	2·69291		2·95695	2·69377	4
5		3·70011	3·36291		3·69913	3·36398		3·69815	3·36506		3·69717	3·36613		3·69619	3·36721	5
6		4·44013	4·03549		4·43896	4·03678		4·43778	4·03807		4·43661	4·03936		4·43543	4·04065	6
7		5·18015	4·70807		5·17878	4·70958		5·17741	4·71108		5·17604	4·71259		5·17467	4·71409	7
8		5·92018	5·38065		5·91861	5·38237		5·91704	5·38410		5·91548	5·38582		5·91391	5·38754	8
9		6·66020	6·05323		6·65844	6·05517		6·65667	6·05711		6·65491	6·05904		6·65315	6·06098	9
10	44	7·40022	6·72582	43	7·39826	6·72797	42	7·39631	6·73012	41	7·39435	6·73227	40	7·39239	6·73442	10
1	26	0·73806	0·67473	27	0·73786	0·67494	28	0·73767	0·67516	29	0·73747	0·67537	30	0·73727	0·67559	1
2		1·47612	1·34946		1·47573	1·34989		1·47534	1·35032		1·47484	1·35075		1·47455	1·35118	2
3		2·21418	2·02419		2·21359	2·02483		2·21301	2·02548		2·21242	2·02612		2·21183	2·02677	3
4		2·95225	2·69892		2·95146	2·69978		2·95068	2·70064		2·94989	2·70150		2·94910	2·70236	4
5		3·69031	3·37366		3·68933	3·37473		3·68835	3·37580		3·68736	3·37687		3·68638	3·37795	5
6		4·42837	4·04839		4·42719	4·04967		4·42602	4·05096		4·42484	4·05225		4·42366	4·05354	6
7		5·16644	4·72312		5·16506	4·72462		5·16369	4·72612		5·16231	4·72762		5·16094	4·72913	7
8		5·90450	5·39785		5·90293	5·39957		5·90136	5·40128		5·89979	5·40300		5·89821	5·40472	8
9		6·64256	6·07258		6·64079	6·07451		6·63903	6·07645		6·63726	6·07838		6·63549	6·08031	9
10	34	7·38063	6·74732	33	7·37866	6·74946	32	7·37670	6·75161	31	7·37473	6·75375	30	7·37277	6·75590	10
1	36	0·73609	0·67687	37	0·73590	0·67709	38	0·73570	0·67730	39	0·73550	0·67751	40	0·73530	0·67773	1
2		1·47219	1·35375		1·47180	1·35418		1·47140	1·35460		1·47101	1·35503		1·47061	1·35546	2
3		2·20829	2·03062		2·20770	2·03127		2·20710	2·03191		2·20651	2·03255		2·20592	2·03319	3
4		2·94438	2·70750		2·94360	2·70836		2·94281	2·70921		2·94202	2·71007		2·94123	2·71092	4
5		3·68048	3·38438		3·67950	3·38545		3·67851	3·38652		3·67753	3·38759		3·67654	3·38866	5
6		4·41658	4·06125		4·41540	4·06254		4·41421	4·06382		4·41303	4·06510		4·41185	4·06639	6
7		5·15267	4·73813		5·15130	4·73963		5·14992	4·74112		5·14854	4·74262		5·14716	4·74412	7
8		5·88877	5·41500		5·88720	5·41672		5·88562	5·41843		5·88404	5·42014		5·88247	5·42185	8
9		6·62487	6·09188		6·62310	6·09381		6·62132	6·09573		6·61955	6·09766		6·61778	6·09958	9
10	24	7·36097	6·76876	23	7·35900	6·77090	22	7·35703	6·77304	21	7·35506	6·77518	20	7·35309	6·77732	10
1	46	0·73412	0·67901	47	0·73392	0·67922	48	0·73373	0·67944	49	0·73353	0·67965	50	0·73333	0·67986	1
2		1·46825	1·35802		1·46785	1·35845		1·46746	1·35888		1·46706	1·35930		1·46666	1·35973	2
3		2·20237	2·03704		2·20178	2·03768		2·20119	2·03832		2·20059	2·03896		2·20000	2·03960	3
4		2·93650	2·71605		2·93571	2·71691		2·93492	2·71776		2·93412	2·71861		2·93333	2·71947	4
5		3·67062	3·39507		3·66963	3·39613		3·66865	3·39720		3·66766	3·39827		3·66667	3·39934	5
6		4·40475	4·07408		4·40356	4·07536		4·40238	4·07664		4·40119	4·07792		4·40000	4·07920	6
7		5·13887	4·75310		5·13749	4·75459		5·13611	4·75608		5·13472	4·75758		5·13334	4·75907	7
8		5·87300	5·43211		5·87142	5·43382		5·86984	5·43553		5·86825	5·43723		5·86667	5·43894	8
9		6·60712	6·11112		6·60534	6·11305		6·60357	6·11497		6·60178	6·11689		6·60001	6·11881	9
10	14	7·34125	6·79014	13	7·33927	6·79227	12	7·33730	6·79441	11	7·33532	6·79654	10	7·33334	6·79868	10
1	56	0·73214	0·68114	57	0·73194	0·68136	58	0·73175	0·68157	59	0·73155	0·68178	60	0·73135	0·68199	1
2		1·46429	1·36229		1·46389	1·36272		1·46350	1·36314		1·46310	1·36357		1·46270	1·36399	2
3		2·19644	2·04344		2·19584	2·04408		2·19525	2·04471		2·19465	2·04535		2·19406	2·04599	3
4		2·92858	2·72458		2·92779	2·72544		2·92700	2·72629		2·92620	2·72714		2·92541	2·72799	4
5		3·66073	3·40573		3·65974	3·40680		3·65875	3·40786		3·65776	3·40892		3·65676	3·40999	5
6		4·39288	4·08688		4·39169	4·08816		4·39050	4·08943		4·38931	4·09071		4·38812	4·09199	6
7		5·12502	4·76802		5·12364	4·76952		5·12225	4·77100		5·12086	4·77249		5·11947	4·77398	7
8		5·85717	5·44917		5·85558	5·45088		5·85400	5·45258		5·85241	5·45428		5·85082	5·45598	8
9		6·58932	6·13032		6·58753	6·13224		6·58575	6·13415		6·58396	6·13607		6·58218	6·13798	9
10	04	7·32146	6·81147	03	7·31948	6·81360	02	7·31750	6·81572	01	7·31552	6·81785	00	7·31353	6·81998	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

47 DEG.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·73115	0·68221	02	0·73095	0·68242	03	0·73075	0·68263	04	0·73056	0·68284	05	0·73036	0·68306	1
2		1·46231	1·36442		1·46191	1·36484		1·46151	1·36527		1·46112	1·36569		1·46072	1·36612	2
3		2·19346	2·04663		2·19287	2·04727		2·19227	2·04790		2·19168	2·04854		2·19108	2·04918	3
4		2·92462	2·72884		2·92382	2·72969		2·92303	2·73054		2·92224	2·73139		2·92144	2·73224	4
5		3·65577	3·41105		3·65478	3·41211		3·65379	3·41318		3·65280	3·41424		3·65180	3·41530	5
6		4·38693	4·09326		4·38574	4·09454		4·38454	4·09581		4·38336	4·09709		4·38216	4·09836	6
7		5·11808	4·77547		5·11669	4·77696		5·11530	4·77845		5·11392	4·77994		5·11252	4·78142	7
8		5·84924	5·45768		5·84765	5·45938		5·84606	5·46109		5·84448	5·46279		5·84288	5·46449	8
9		6·58039	6·13989		6·57861	6·14181		6·57682	6·14372		6·57504	6·14564		6·57324	6·14755	9
10	59	7·31155	6·82211	58	7·30956	6·82423	57	7·30758	6·82636	56	7·30560	6·82849	55	7·30361	6·83061	10
1	11	0·72916	0·68433	12	0·72896	0·68454	13	0·72876	0·68475	14	0·72857	0·68497	15	0·72837	0·68518	1
2		1·45833	1·36867		1·45793	1·36909		1·45753	1·36951		1·45714	1·36994		1·45674	1·37036	2
3		2·18750	2·05300		2·18690	2·05364		2·18630	2·05427		2·18571	2·05491		2·18511	2·05554	3
4		2·91667	2·73734		2·91587	2·73818		2·91507	2·73903		2·91428	2·73988		2·91348	2·74073	4
5		3·64583	3·42167		3·64484	3·42273		3·64384	3·42379		3·64285	3·42485		3·64185	3·42591	5
6		4·37500	4·10601		4·37381	4·10728		4·37261	4·10855		4·37142	4·10982		4·37022	4·11109	6
7		5·10417	4·79034		5·10278	4·79182		5·10138	4·79331		5·09999	4·79479		5·09859	4·79628	7
8		5·83334	5·47468		5·83174	5·47637		5·83015	5·47807		5·82856	5·47976		5·82696	5·48146	8
9		6·56250	6·15901		6·56071	6·16092		6·55892	6·16283		6·55713	6·16473		6·55533	6·16664	9
10	49	7·29167	6·84335	48	7·28968	6·84547	47	7·28769	6·84759	46	7·28570	6·84971	45	7·28371	6·85183	10
1	21	0·72717	0·68645	22	0·72697	0·68666	23	0·72677	0·68687	24	0·72657	0·68708	25	0·72637	0·68729	1
2		1·45434	1·37290		1·45394	1·37332		1·45354	1·37375		1·45314	1·37417		1·45274	1·37459	2
3		2·18152	2·05935		2·18092	2·05999		2·18032	2·06062		2·17972	2·06126		2·17912	2·06189	3
4		2·90869	2·74581		2·90789	2·74665		2·90709	2·74750		2·90629	2·74835		2·90549	2·74919	4
5		3·63587	3·43226		3·63487	3·43332		3·63387	3·43438		3·63287	3·43543		3·63187	3·43649	5
6		4·36304	4·11871		4·36184	4·11998		4·36064	4·12125		4·35944	4·12252		4·35824	4·12379	6
7		5·09021	4·80517		5·08882	4·80665		5·08742	4·80813		5·08602	4·80961		5·08462	4·81109	7
8		5·81739	5·49162		5·81579	5·49331		5·81419	5·49500		5·81259	5·49670		5·81099	5·49839	8
9		6·54456	6·17807		6·54276	6·17998		6·54097	6·18188		6·53917	6·18378		6·53737	6·18568	9
10	39	7·27174	6·86453	38	7·26974	6·86664	37	7·26774	6·86876	36	7·26574	6·87087	35	7·26374	6·87298	10
1	31	0·72517	0·68856	32	0·72497	0·68877	33	0·72477	0·68898	34	0·72457	0·68919	35	0·72437	0·68940	1
2		1·45034	1·37713		1·44994	1·37755		1·44954	1·37797		1·44914	1·37839		1·44874	1·37881	2
3		2·17552	2·06569		2·17492	2·06632		2·17432	2·06696		2·17371	2·06759		2·17311	2·06822	3
4		2·90069	2·75426		2·89989	2·75510		2·89909	2·75594		2·89829	2·75679		2·89748	2·75763	4
5		3·62587	3·44282		3·62486	3·44388		3·62386	3·44493		3·62286	3·44599		3·62186	3·44704	5
6		4·35104	4·13139		4·34984	4·13265		4·34864	4·13392		4·34743	4·13518		4·34623	4·13645	6
7		5·07621	4·81995		5·07481	4·82143		5·07341	4·82291		5·07201	4·82438		5·07060	4·82586	7
8		5·80139	5·50852		5·79979	5·51021		5·79818	5·51189		5·79658	5·51358		5·79497	5·51527	8
9		6·52656	6·19708		6·52476	6·19898		6·52296	6·20088		6·52115	6·20278		6·51935	6·20468	9
10	29	7·25174	6·88565	28	7·24973	6·88776	27	7·24773	6·88987	26	7·24573	6·89198	25	7·24372	6·89409	10
1	41	0·72316	0·69067	42	0·72296	0·69088	43	0·72276	0·69109	44	0·72256	0·69130	45	0·72236	0·69151	1
2		1·44633	1·38134		1·44593	1·38176		1·44553	1·38218		1·44513	1·38260		1·44472	1·38302	2
3		2·16950	2·07201		2·16890	2·07264		2·16829	2·07327		2·16769	2·07390		2·16709	2·07453	3
4		2·89267	2·76268		2·89186	2·76352		2·89106	2·76437		2·89026	2·76521		2·88945	2·76605	4
5		3·61584	3·45336		3·61483	3·45441		3·61383	3·45546		3·61282	3·45651		3·61182	3·45756	5
6		4·33900	4·14403		4·33780	4·14529		4·33659	4·14655		4·33539	4·14781		4·33418	4·14907	6
7		5·06217	4·83470		5·06076	4·83617		5·05936	4·83764		5·05795	4·83912		5·05654	4·84059	7
8		5·78534	5·52537		5·78373	5·52705		5·78212	5·52874		5·78052	5·53042		5·77891	5·53210	8
9		6·50851	6·21604		6·50670	6·21794		6·50489	6·21983		6·50308	6·22172		6·50127	6·22361	9
10	19	7·23168	6·90672	18	7·22967	6·90882	17	7·22766	6·91092	16	7·22565	6·91303	15	7·22364	6·91513	10
1	51	0·72115	0·69277	52	0·72095	0·69298	53	0·72075	0·69319	54	0·72055	0·69340	55	0·72034	0·69361	1
2		1·44231	1·38554		1·44190	1·38596		1·44150	1·38638		1·44110	1·38680		1·44069	1·38722	2
3		2·16346	2·07831		2·16286	2·07894		2·16225	2·07957		2·16165	2·08020		2·16104	2·08083	3
4		2·88462	2·77109		2·88381	2·77193		2·88301	2·77276		2·88220	2·77360		2·88139	2·77444	4
5		3·60578	3·46386		3·60477	3·46491		3·60376	3·46596		3·60275	3·46700		3·60174	3·46805	5
6		4·32693	4·15663		4·32572	4·15789		4·32451	4·15915		4·32330	4·16041		4·32209	4·16166	6
7		5·04809	4·84940		5·04668	4·85087		5·04526	4·85234		5·04385	4·85381		5·04244	4·85527	7
8		5·76924	5·54218		5·76763	5·54386		5·76602	5·54553		5·76440	5·54721		5·76279	5·54889	8
9		6·49040	6·23495		6·48858	6·23684		6·48677	6·23872		6·48495	6·24061		6·48314	6·24250	9
10	09	7·21156	6·92772	08	7·20954	6·92982	07	7·20752	6·93192	06	7·20551	6·93401	05	7·20349	6·93611	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 46.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·73016	0·68327	07	0·72996	0·68348	08	0·72976	0·68369	09	0·72956	0·68391	10	0·72936	0·68412	1
2		1·46032	1·36654		1·45992	1·36697		1·45952	1·36739		1·45913	1·36782		1·45873	1·36824	2
3		2·19048	2·04982		2·18989	2·05045		2·18929	2·05109		2·18869	2·05173		2·18810	2·05236	3
4		2·92064	2·73309		2·91985	2·73394		2·91905	2·73479		2·91826	2·73564		2·91746	2·73649	4
5		3·65081	3·41636		3·64981	3·41743		3·64882	3·41849		3·64782	3·41955		3·64683	3·42061	5
6		4·38097	4·09964		4·37978	4·10091		4·37858	4·10219		4·37739	4·10346		4·37620	4·10473	6
7		5·11113	4·78291		5·10974	4·78440		5·10835	4·78588		5·10695	4·78737		5·10556	4·78886	7
8		5·84129	5·46619		5·83970	5·46788		5·83811	5·46958		5·83652	5·47128		5·83493	5·47298	8
9		6·57146	6·14946		6·56967	6·15137		6·56788	6·15328		6·56609	6·15519		6·56430	6·15710	9
10	54	7·30162	6·83273	53	7·29963	6·83486	52	7·29764	6·83698	51	7·29565	6·83910	50	7·29366	6·84123	10
1	16	0·72817	0·68539	17	0·72797	0·68560	18	0·72777	0·68581	19	0·72757	0·68603	20	0·72737	0·68624	1
2		1·45634	1·37078		1·45594	1·37121		1·45554	1·37163		1·45514	1·37206		1·45474	1·37248	2
3		2·18451	2·05618		2·18391	2·05681		2·18331	2·05745		2·18271	2·05809		2·18212	2·05872	3
4		2·91268	2·74157		2·91188	2·74242		2·91109	2·74327		2·91029	2·74412		2·90949	2·74496	4
5		3·64085	3·42697		3·63986	3·42803		3·63886	3·42909		3·63786	3·43015		3·63686	3·43120	5
6		4·36902	4·11236		4·36783	4·11363		4·36663	4·11491		4·36543	4·11618		4·36424	4·11744	6
7		5·09720	4·79776		5·09580	4·79924		5·09440	4·80072		5·09301	4·80221		5·09161	4·80369	7
8		5·82537	5·48315		5·82377	5·48485		5·82218	5·48654		5·82058	5·48824		5·81898	5·48993	8
9		6·55354	6·16855		6·55174	6·17045		6·54995	6·17236		6·54815	6·17427		6·54636	6·17617	9
10	44	7·28171	6·85394	43	7·27972	6·85606	42	7·27772	6·85818	41	7·27573	6·86030	40	7·27373	6·86241	10
1	26	0·72617	0·68751	27	0·72597	0·68772	28	0·72577	0·68793	29	0·72557	0·68814	30	0·72537	0·68835	1
2		1·45234	1·37502		1·45194	1·37544		1·45154	1·37586		1·45114	1·37628		1·45074	1·37670	2
3		2·17852	2·06253		2·17792	2·06316		2·17732	2·06379		2·17672	2·06443		2·17612	2·06506	3
4		2·90469	2·75004		2·90389	2·75088		2·90309	2·75173		2·90229	2·75257		2·90149	2·75341	4
5		3·63087	3·43755		3·62987	3·43860		3·62887	3·43966		3·62787	3·44071		3·62687	3·44177	5
6		4·35704	4·12506		4·35584	4·12632		4·35464	4·12759		4·35344	4·12886		4·35224	4·13012	6
7		5·08322	4·81257		5·08182	4·81404		5·08042	4·81552		5·07902	4·81700		5·07762	4·81848	7
8		5·80939	5·50008		5·80779	5·50177		5·80619	5·50346		5·80459	5·50514		5·80299	5·50683	8
9		6·53557	6·18759		6·53377	6·18949		6·53197	6·19139		6·53017	6·19329		6·52836	6·19519	9
10	34	7·26174	6·87510	33	7·25974	6·87721	32	7·25774	6·87932	31	7·25574	6·88143	30	7·25374	6·88354	10
1	36	0·72417	0·68961	37	0·72397	0·68983	38	0·72377	0·69004	39	0·72356	0·69025	40	0·72336	0·69046	1
2		1·44834	1·37923		1·44794	1·37966		1·44754	1·38008		1·44713	1·38050		1·44673	1·38092	2
3		2·17251	2·06885		2·17191	2·06949		2·17131	2·07012		2·17070	2·07075		2·17010	2·07138	3
4		2·89668	2·75847		2·89588	2·75932		2·89508	2·76016		2·89427	2·76100		2·89347	2·76184	4
5		3·62086	3·44809		3·61985	3·44915		3·61885	3·45020		3·61784	3·45125		3·61684	3·45230	5
6		4·34503	4·13771		4·34382	4·13898		4·34262	4·14024		4·34141	4·14150		4·34021	4·14277	6
7		5·06920	4·82733		5·06779	4·82881		5·06639	4·83028		5·06498	4·83175		5·06358	4·83323	7
8		5·79337	5·51695		5·79176	5·51864		5·79016	5·52032		5·78855	5·52200		5·78695	5·52369	8
9		6·51754	6·20657		6·51574	6·20847		6·51393	6·21036		6·51212	6·21226		6·51032	6·21415	9
10	24	7·24172	6·89619	23	7·23971	6·89830	22	7·23770	6·90040	21	7·23569	6·90251	20	7·23369	6·90461	10
1	46	0·72216	0·69172	47	0·72196	0·69193	48	0·72176	0·69214	49	0·72155	0·69235	50	0·72135	0·69256	1
2		1·44432	1·38344		1·44392	1·38386		1·44352	1·38428		1·44311	1·38470		1·44271	1·38512	2
3		2·16648	2·07516		2·16588	2·07579		2·16528	2·07642		2·16467	2·07705		2·16407	2·07768	3
4		2·88865	2·76689		2·88784	2·76773		2·88704	2·76857		2·88623	2·76941		2·88542	2·77025	4
5		3·61081	3·45861		3·60980	3·45966		3·60880	3·46071		3·60779	3·46176		3·60678	3·46281	5
6		4·33297	4·15033		4·33176	4·15159		4·33056	4·15285		4·32935	4·15411		4·32814	4·15537	6
7		5·05513	4·84206		5·05373	4·84353		5·05232	4·84500		5·05091	4·84647		5·04950	4·84794	7
8		5·77730	5·53378		5·77569	5·53546		5·77408	5·53714		5·77247	5·53882		5·77085	5·54050	8
9		6·49946	6·22550		6·49765	6·22739		6·49584	6·22928		6·49403	6·23117		6·49221	6·23306	9
10	14	7·22162	6·91723	13	7·21961	6·91933	12	7·21760	6·92143	11	7·21559	6·92353	10	7·21357	6·92563	10
1	56	0·72014	0·69382	57	0·71994	0·69403	58	0·71974	0·69424	59	0·71954	0·69444	60	0·71933	0·69465	1
2		1·44029	1·38764		1·43989	1·38806		1·43948	1·38848		1·43908	1·38889		1·43867	1·38931	2
3		2·16044	2·08146		2·15983	2·08209		2·15923	2·08272		2·15862	2·08334		2·15801	2·08397	3
4		2·88059	2·77528		2·87978	2·77612		2·87897	2·77696		2·87816	2·77779		2·87735	2·77863	4
5		3·60073	3·46910		3·59972	3·47015		3·59871	3·47120		3·59770	3·47224		3·59669	3·47329	5
6		4·32088	4·16292		4·31967	4·16418		4·31846	4·16544		4·31725	4·16669		4·31603	4·16795	6
7		5·04103	4·85674		5·03961	4·85821		5·03820	4·85968		5·03679	4·86114		5·03537	4·86260	7
8		5·76118	5·55056		5·75956	5·55224		5·75795	5·55392		5·75633	5·55559		5·75471	5·55726	8
9		6·48132	6·24438		6·47951	6·24627		6·47769	6·24816		6·47587	6·25004		6·47405	6·25192	9
10	04	7·20147	6·93821	03	7·19945	6·94030	02	7·19743	6·94240	01	7·19541	6·94449	00	7·19339	6·94658	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.		Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

46 DEG.

4

b

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	01	0·71913	0·69486	02	0·71893	0·69507	03	0·71873	0·69528	04	0·71853	0·69549	05	0·71832	0·69570	1
2		1·43827	1·38973		1·43787	1·39015		1·43746	1·39057		1·43706	1·39098		1·43665	1·39140	2
3		2·15741	2·08460		2·15680	2·08523		2·15619	2·08585		2·15559	2·08648		2·15498	2·08711	3
4		2·87655	2·77947		2·87574	2·78030		2·87493	2·78114		2·87412	2·78197		2·87331	2·78281	4
5		3·59568	3·47433		3·59467	3·47538		3·59366	3·47642		3·59265	3·47747		3·59164	3·47852	5
6		4·31482	4·16920		4·31361	4·17046		4·31239	4·17171		4·31118	4·17296		4·30997	4·17422	6
7		5·03396	4·86407		5·03254	4·86553		5·03113	4·86700		5·02971	4·86846		5·02830	4·86992	7
8		5·75310	5·55894		5·75148	5·56061		5·74986	5·56228		5·74824	5·56395		5·74662	5·56563	8
9		6·47223	6·25380		6·47041	6·25569		6·46859	6·25757		6·46677	6·25945		6·46495	6·26133	9
10	59	7·19137	6·94867	58	7·18935	6·95076	57	7·18733	6·95285	56	7·18531	6·95495	55	7·18328	6·95704	10
1	11	0·71711	0·69695	12	0·71691	0·69716	13	0·71670	0·69737	14	0·71650	0·69758	15	0·71630	0·69779	1
2		1·43422	1·39391		1·43382	1·39433		1·43341	1·39474		1·43300	1·39516		1·43260	1·39558	2
3		2·15134	2·09086		2·15073	2·09149		2·15012	2·09212		2·14951	2·09274		2·14890	2·09337	3
4		2·86845	2·78782		2·86764	2·78866		2·86683	2·78949		2·86601	2·79032		2·86520	2·79116	4
5		3·58556	3·48478		3·58455	3·48582		3·58353	3·48686		3·58252	3·48791		3·58151	3·48895	5
6		4·30268	4·18173		4·30146	4·18299		4·30024	4·18424		4·29902	4·18549		4·29781	4·18674	6
7		5·01979	4·87869		5·01837	4·88015		5·01695	4·88161		5·01553	4·88307		5·01411	4·88453	7
8		5·73690	5·57565		5·73528	5·57732		5·73366	5·57898		5·73203	5·58065		5·73041	5·58232	8
9		6·45402	6·27260		6·45219	6·27448		6·45037	6·27636		6·44854	6·27823		6·44671	6·28011	9
10	49	7·17113	6·96956	48	7·16910	6·97165	47	7·16707	6·97373	46	7·16505	6·97582	45	7·16302	6·97790	10
1	21	0·71508	0·69904	22	0·71488	0·69924	23	0·71467	0·69945	24	0·71447	0·69966	25	0·71426	0·69987	1
2		1·43016	1·39808		1·42976	1·39849		1·42935	1·39891		1·42894	1·39932		1·42853	1·39974	2
3		2·14524	2·09712		2·14464	2·09774		2·14402	2·09836		2·14341	2·09898		2·14280	2·09961	3
4		2·86033	2·79616		2·85952	2·79699		2·85870	2·79782		2·85789	2·79865		2·85707	2·79948	4
5		3·57541	3·49520		3·57440	3·49623		3·57338	3·49727		3·57236	3·49831		3·57134	3·49935	5
6		4·29049	4·19424		4·28928	4·19548		4·28805	4·19673		4·28683	4·19797		4·28561	4·19922	6
7		5·00558	4·89328		5·00416	4·89473		5·00273	4·89618		5·00130	4·89764		4·99988	4·89909	7
8		5·72066	5·59232		5·71904	5·59398		5·71740	5·59564		5·71578	5·59730		5·71415	5·59896	8
9		6·43574	6·29136		6·43392	6·29322		6·43208	6·29509		6·43025	6·29696		6·42842	6·29883	9
10	39	7·15083	6·99040	38	7·14880	6·99247	37	7·14676	6·99455	36	7·14472	6·99663	35	7·14269	6·99871	10
1	31	0·71304	0·70111	32	0·71284	0·70132	33	0·71263	0·70153	34	0·71243	0·70173	35	0·71223	0·70194	1
2		1·42609	1·40223		1·42568	1·40264		1·42527	1·40306		1·42486	1·40347		1·42446	1·40389	2
3		2·13913	2·10335		2·13852	2·10397		2·13791	2·10459		2·13730	2·10521		2·13669	2·10583	3
4		2·85218	2·80446		2·85137	2·80529		2·85055	2·80612		2·84973	2·80695		2·84892	2·80778	4
5		3·56523	3·50558		3·56421	3·50662		3·56319	3·50765		3·56217	3·50869		3·56115	3·50973	5
6		4·27827	4·20670		4·27705	4·20794		4·27583	4·20918		4·27460	4·21043		4·27338	4·21167	6
7		4·99132	4·90781		4·98989	4·90926		4·98846	4·91071		4·98704	4·91217		4·98561	4·91362	7
8		5·70437	5·60893		5·70274	5·61059		5·70110	5·61225		5·69947	5·61390		5·69784	5·61556	8
9		6·41741	6·31005		6·41558	6·31191		6·41374	6·31378		6·41190	6·31564		6·41007	6·31751	9
10	29	7·13046	7·01116	28	7·12842	7·01324	27	7·12638	7·01531	26	7·12434	7·01738	25	7·12230	7·01946	10
1	41	0·71100	0·70318	42	0·71079	0·70339	43	0·71059	0·70360	44	0·71039	0·70380	45	0·71018	0·70401	1
2		1·42200	1·40637		1·42159	1·40678		1·42118	1·40720		1·42078	1·40761		1·42037	1·40802	2
3		2·13301	2·10956		2·13239	2·11018		2·13178	2·11080		2·13117	2·11142		2·13055	2·11204	3
4		2·84401	2·81275		2·84319	2·81357		2·84237	2·81440		2·84156	2·81523		2·84074	2·81605	4
5		3·55502	3·51594		3·55399	3·51697		3·55297	3·51800		3·55195	3·51904		3·55092	3·52007	5
6		4·26602	4·21912		4·26479	4·22036		4·26356	4·22160		4·26234	4·22284		4·26111	4·22408	6
7		4·97702	4·92231		4·97559	4·92376		4·97416	4·92520		4·97273	4·92665		4·97129	4·92810	7
8		5·68803	5·62550		5·68639	5·62715		5·68475	5·62881		5·68312	5·63046		5·68148	5·63211	8
9		6·39903	6·32869		6·39719	6·33055		6·39535	6·33241		6·39351	6·33427		6·39166	6·33613	9
10	19	7·11004	7·03188	18	7·10799	7·03394	17	7·10594	7·03601	16	7·10390	7·03808	15	7·10185	7·04014	10
1	51	0·70895	0·70525	52	0·70875	0·70545	53	0·70854	0·70566	54	0·70834	0·70587	55	0·70813	0·70607	1
2		1·41791	1·41050		1·41750	1·41091		1·41709	1·41133		1·41668	1·41174		1·41626	1·41215	2
3		2·12686	2·11575		2·12625	2·11637		2·12563	2·11699		2·12502	2·11761		2·12440	2·11823	3
4		2·83582	2·82101		2·83500	2·82183		2·83418	2·82266		2·83336	2·82348		2·83253	2·82431	4
5		3·54477	3·52626		3·54375	3·52729		3·54272	3·52832		3·54170	3·52935		3·54067	3·53038	5
6		4·25373	4·23151		4·25250	4·23275		4·25127	4·23399		4·25004	4·23522		4·24880	4·23646	6
7		4·96268	4·93677		4·96125	4·93821		4·95981	4·93965		4·95838	4·94110		4·95694	4·94254	7
8		5·67164	5·64202		5·67000	5·64367		5·66836	5·64532		5·66672	5·64697		5·66507	5·64862	8
9		6·38060	6·34727		6·37875	6·34913		6·37690	6·35098		6·37506	6·35284		6·37321	6·35469	9
10	09	7·08955	7·05253	08	7·08750	7·05459	07	7·08545	7·05665	06	7·08340	7·05871	05	7·08134	7·06077	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

DEG. 45.

D.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	M.	Lat.	Dep.	D.
1	06	0·71812	0·69591	07	0·71792	0·69612	08	0·71772	0·69633	09	0·71751	0·69653	10	0·71731	0·69674	1
2		1·43625	1·39182		1·43584	1·39224		1·43544	1·39266		1·43503	1·39307		1·43463	1·39349	2
3		2·15437	2·08773		2·15377	2·08836		2·15316	2·08899		2·15255	2·08961		2·15194	2·09024	3
4		2·87250	2·78365		2·87169	2·78448		2·87088	2·78532		2·87007	2·78615		2·86926	2·78699	4
5		3·59063	3·47956		3·58961	3·48060		3·58860	3·48165		3·58759	3·48269		3·58658	3·48374	5
6		4·30875	4·17547		4·30754	4·17673		4·30632	4·17798		4·30511	4·17923		4·30389	4·18048	6
7		5·02688	4·87138		5·02546	4·87285		5·02404	4·87431		5·02263	4·87577		5·02121	4·87723	7
8		5·74501	5·56730		5·74339	5·56897		5·74177	5·57064		5·74014	5·57231		5·73852	5·57398	8
9		6·46313	6·26321		6·46131	6·26509		6·45949	6·26697		6·45766	6·26885		6·45584	6·27073	9
10	54	7·18126	6·95912	53	7·17923	6·96121	52	7·17721	6·96330	51	7·17518	6·96539	50	7·17316	6·96748	10
1	16	0·71609	0·69799	17	0·71589	0·69820	18	0·71569	0·69841	19	0·71548	0·69862	20	0·71528	0·69883	1
2		1·43219	1·39599		1·43179	1·39641		1·43138	1·39683		1·43097	1·39724		1·43057	1·39766	2
3		2·14829	2·09399		2·14768	2·09462		2·14707	2·09524		2·14646	2·09587		2·14585	2·09649	3
4		2·86439	2·79199		2·86358	2·79282		2·86277	2·79366		2·86195	2·79449		2·86114	2·79532	4
5		3·58049	3·48999		3·57948	3·49103		3·57846	3·49207		3·57744	3·49311		3·57643	3·49415	5
6		4·29659	4·18799		4·29537	4·18924		4·29415	4·19049		4·29293	4·19174		4·29171	4·19298	6
7		5·01269	4·88599		5·01127	4·88744		5·00984	4·88890		5·00842	4·89036		5·00700	4·89182	7
8		5·72879	5·58399		5·72716	5·58565		5·72554	5·58732		5·72391	5·58898		5·72229	5·59065	8
9		6·44489	6·28198		6·44306	6·28386		6·44123	6·28573		6·43940	6·28761		6·43757	6·28948	9
10	44	7·16099	6·97998	43	7·15896	6·98207	42	7·15692	6·98415	41	7·15489	6·98623	40	7·15286	6·98831	10
1	26	0·71406	0·70007	27	0·71386	0·70028	28	0·71365	0·70049	29	0·71345	0·70070	30	0·71325	0·70090	1
2		1·42813	1·40015		1·42772	1·40057		1·42731	1·40098		1·42690	1·40140		1·42650	1·40181	2
3		2·14219	2·10023		2·14158	2·10085		2·14097	2·10148		2·14036	2·10210		2·13975	2·10272	3
4		2·85626	2·80031		2·85544	2·80114		2·85463	2·80197		2·85381	2·80280		2·85300	2·80363	4
5		3·57032	3·50039		3·56930	3·50143		3·56829	3·50247		3·56727	3·50350		3·56625	3·50454	5
6		4·28439	4·20047		4·28317	4·20171		4·28194	4·20296		4·28072	4·20421		4·27950	4·20545	6
7		4·99845	4·90055		4·99703	4·90200		4·99560	4·90345		4·99418	4·90491		4·99275	4·90636	7
8		5·71252	5·60063		5·71089	5·60229		5·70926	5·60395		5·70763	5·60561		5·70600	5·60727	8
9		6·42658	6·30071		6·42475	6·30257		6·42292	6·30444		6·42108	6·30631		6·41925	6·30818	9
10	34	7·14065	7·00079	33	7·13861	7·00286	32	7·13658	7·00494	31	7·13454	7·00701	30	7·13250	7·00909	10
1	36	0·71202	0·70215	37	0·71182	0·70236	38	0·71161	0·70256	39	0·71141	0·70277	40	0·71120	0·70298	1
2		1·42405	1·40430		1·42364	1·40472		1·42323	1·40513		1·42282	1·40554		1·42241	1·40596	2
3		2·13607	2·10645		2·13546	2·10708		2·13485	2·10770		2·13423	2·10832		2·13362	2·10894	3
4		2·84810	2·80861		2·84728	2·80944		2·84646	2·81026		2·84565	2·81109		2·84483	2·81192	4
5		3·56013	3·51076		3·55910	3·51180		3·55808	3·51283		3·55706	3·51387		3·55604	3·51490	5
6		4·27215	4·21291		4·27093	4·21416		4·26970	4·21540		4·26847	4·21664		4·26725	4·21788	6
7		4·98418	4·91507		4·98275	4·91652		4·98132	4·91797		4·97989	4·91941		4·97846	4·92086	7
8		5·69620	5·61722		5·69457	5·61888		5·69293	5·62053		5·69130	5·62219		5·68966	5·62384	8
9		6·40823	6·31937		6·40639	6·32124		6·40455	6·32310		6·40271	6·32496		6·40087	6·32682	9
10	24	7·12026	7·02153	23	7·11821	7·02360	22	7·11617	7·02567	21	7·11413	7·02774	20	7·11208	7·02981	10
1	46	0·70998	0·70422	47	0·70977	0·70442	48	0·70957	0·70463	49	0·70936	0·70484	50	0·70916	0·70504	1
2		1·41996	1·40844		1·41955	1·40885		1·41914	1·40926		1·41873	1·40968		1·41832	1·41009	2
3		2·12994	2·11266		2·12932	2·11328		2·12871	2·11390		2·12809	2·11452		2·12748	2·11514	3
4		2·83992	2·81688		2·83910	2·81771		2·83828	2·81853		2·83746	2·81936		2·83664	2·82018	4
5		3·54990	3·52110		3·54887	3·52213		3·54785	3·52317		3·54682	3·52420		3·54580	3·52523	5
6		4·25988	4·22532		4·25865	4·22656		4·25742	4·22780		4·25619	4·22904		4·25496	4·23028	6
7		4·96986	4·92954		4·96842	4·93099		4·96699	4·93243		4·96555	4·93388		4·96412	4·93532	7
8		5·67984	5·63377		5·67820	5·63542		5·67656	5·63707		5·67492	5·63872		5·67328	5·64037	8
9		6·38982	6·33799		6·38798	6·33985		6·38613	6·34170		6·38429	6·34356		6·38244	6·34542	9
10	14	7·09980	7·04221	13	7·09775	7·04427	12	7·09570	7·04634	11	7·09365	7·04840	10	7·09160	7·05047	10
1	56	0·70792	0·70628	57	0·70772	0·70648	58	0·70751	0·70669	59	0·70731	0·70690	60	0·70710	0·70710	1
2		1·41585	1·41256		1·41544	1·41297		1·41503	1·41339		1·41462	1·41380		1·41421	1·41421	2
3		2·12378	2·11885		2·12317	2·11946		2·12255	2·12008		2·12193	2·12070		2·12132	2·12132	3
4		2·83171	2·82513		2·83089	2·82595		2·83007	2·82678		2·82924	2·82760		2·82842	2·82842	4
5		3·53964	3·53141		3·53861	3·53244		3·53759	3·53347		3·53656	3·53450		3·53553	3·53553	5
6		4·24757	4·23770		4·24634	4·23893		4·24510	4·24017		4·24387	4·24140		4·24264	4·24264	6
7		4·95550	4·94398		4·95406	4·94542		4·95262	4·94686		4·95118	4·94830		4·94974	4·94974	7
8		5·66343	5·65026		5·66178	5·65191		5·66014	5·65356		5·65849	5·65520		5·65685	5·65685	8
9		6·37136	6·35655		6·36951	6·35840		6·36766	6·36025		6·36581	6·36210		6·36396	6·36396	9
10	04	7·07929	7·06283	03	7·07723	7·06489	02	7·07518	7·06695	01	7·07312	7·06901	00	7·07106	7·07106	10
D.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	M.	Dep.	Lat.	D.

6

6

45 DEG.

TABLE I.—For converting Yards and Feet into Chains, Links, and Decimals of Links.

0 Chain.		1 Chain.		2 Chains.		3 Chains.		4 Chains.		5 Chains.		6 Chains.		7 Chains.		8 Chains.		9 Chains.		Links and Dec. of Links.
Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	Yds.	Ft.	
0	0	22	66	44	132	66	198	88	264	110	330	132	396	154	462	176	528	198	594	00·0
	1		67		133		199		265		331		397		463		529		595	01·5
	2		68		134		200		266		332		398		464		530		596	03·0
1	3	23	69	45	135	67	201	89	267	111	333	133	399	155	465	177	531	199	597	04·5
	4		70		136		202		268		334		400		466		532		598	06·0
	5		71		137		203		269		335		401		467		533		599	07·6
2	6	24	72	46	138	68	204	90	270	112	336	134	402	156	468	178	534	200	600	09·1
	7		73		139		205		271		337		403		469		535		601	10·6
	8		74		140		206		272		338		404		470		536		602	12·1
3	9	25	75	47	141	69	207	91	273	113	339	135	405	157	471	179	537	201	603	13·6
	10		76		142		208		274		340		406		472		538		604	15·1
	11		77		143		209		275		341		407		473		539		605	16·7
4	12	26	78	48	144	70	210	92	276	114	342	136	408	158	474	180	540	202	606	18·2
	13		79		145		211		277		343		409		475		541		607	19·7
	14		80		146		212		278		344		410		476		542		608	21·2
5	15	27	81	49	147	71	213	93	279	115	345	137	411	159	477	181	543	203	609	22·7
	16		82		148		214		280		346		412		478		544		610	24·2
	17		83		149		215		281		347		413		479		545		611	25·8
6	18	28	84	50	150	72	216	94	282	116	348	138	414	160	480	182	546	204	612	27·3
	19		85		151		217		283		349		415		481		547		613	28·8
	20		86		152		218		284		350		416		482		548		614	30·3
7	21	29	87	51	153	73	219	95	285	117	351	139	417	161	483	183	549	205	615	31·8
	22		88		154		220		286		352		418		484		550		616	33·3
	23		89		155		221		287		353		419		485		551		617	34·8
8	24	30	90	52	156	74	222	96	288	118	354	140	420	162	486	184	552	206	618	36·3
	25		91		157		223		289		355		421		487		553		619	37·9
	26		92		158		224		290		356		422		488		554		620	39·4
9	27	31	93	53	159	75	225	97	291	119	357	141	423	163	489	185	555	207	621	40·9
	28		94		160		226		292		358		424		490		556		622	42·4
	29		95		161		227		293		359		425		491		557		623	43·9
10	30	32	96	54	162	76	228	98	294	120	360	142	426	164	492	186	558	208	624	45·4
	31		97		163		229		295		361		427		493		559		625	47·0
	32		98		164		230		296		362		428		494		560		626	48·5
11	33	33	99	55	165	77	231	99	297	121	363	143	429	165	495	187	561	209	627	50·0
	34		100		166		232		298		364		430		496		562		628	51·5
	35		101		167		233		299		365		431		497		563		629	53·0
12	36	34	102	56	168	78	234	100	300	122	366	144	432	166	498	188	564	210	630	54·5
	37		103		169		235		301		367		433		499		565		631	56·1
	38		104		170		236		302		368		434		500		566		632	57·6
13	39	35	105	57	171	79	237	101	303	123	369	145	435	167	501	189	567	211	633	59·1
	40		106		172		238		304		370		436		502		568		634	60·6
	41		107		173		239		305		371		437		503		569		635	62·1
14	42	36	108	58	174	80	240	102	306	124	372	146	438	168	504	190	570	212	636	63·6
	43		109		175		241		307		373		439		505		571		637	65·1
	44		110		176		242		308		374		440		506		572		638	66·7
15	45	37	111	59	177	81	243	103	309	125	375	147	441	169	507	191	573	213	639	68·2
	46		112		178		244		310		376		442		508		574		640	69·7
	47		113		179		245		311		377		443		509		575		641	71·2
16	48	38	114	60	180	82	246	104	312	126	378	148	444	170	510	192	576	214	642	72·7
	49		115		181		247		313		379		445		511		577		643	74·2
	50		116		182		248		314		380		446		512		578		644	75·7
17	51	39	117	61	183	83	249	105	315	127	381	149	447	171	513	193	579	215	645	77·3
	52		118		184		250		316		382		448		514		580		646	78·8
	53		119		185		251		317		383		449		515		581		647	80·3
18	54	40	120	62	186	84	252	106	318	128	384	150	450	172	516	194	582	216	648	81·8
	55		121		187		253		319		385		451		517		583		649	83·3
	56		122		188		254		320		386		452		518		584		650	84·8
19	57	41	123	63	189	85	255	107	321	129	387	151	453	173	519	195	585	217	651	86·4
	58		124		190		256		322		388		454		520		586		652	87·9
	59		125		191		257		323		389		455		521		587		653	89·4
20	60	42	126	64	192	86	258	108	324	130	390	152	456	174	522	196	588	218	654	90·9
	61		127		193		259		325		391		457		523		589		655	92·4
	62		128		194		260		326		392		458		524		590		656	93·9
21	63	43	129	65	195	87	261	109	327	131	393	153	459	175	525	197	591	219	657	95·4
	64		130		196		262		328		394		460		526		592		658	97·0
	65		131		197		263		329		395		461		527		593		659	98·5
22	66	44	132	66	198	88	264	110	330	132	396	154	462	176	528	198	594	220	660	100·0

TABLE II.—For converting Chains and Links into Yards and Decimals of Yards.

Links.	0 Chain.	1 Chain.	2 Chains.	3 Chains.	4 Chains.	5 Chains.	6 Chains.	7 Chains.	8 Chains.	9 Chains.	Dec. of Yards.	Links.	0 Chain.	1 Chain.	2 Chains.	3 Chains.	4 Chains.	5 Chains.	6 Chains.	7 Chains.	8 Chains.	9 Chains.	Dec. of Yards.
	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.			Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	Yds.	
0	0	22	44	66	88	110	132	154	176	198	·00	50	11	33	55	77	99	121	143	165	187	209	·00
1	0	22	44	66	88	110	132	154	176	198	·22	51	11	33	55	77	99	121	143	165	187	209	·22
2	0	22	44	66	88	110	132	154	176	198	·44	52	11	33	55	77	99	121	143	165	187	209	·44
3	0	22	44	66	88	110	132	154	176	198	·66	53	11	33	55	77	99	121	143	165	187	209	·66
4	0	22	44	66	88	110	132	154	176	198	·88	54	11	33	55	77	99	121	143	165	187	209	·88
5	1	23	45	67	89	111	133	155	177	199	·10	55	12	34	56	78	100	122	144	166	188	210	·10
6	1	23	45	67	89	111	133	155	177	199	·32	56	12	34	56	78	100	122	144	166	188	210	·32
7	1	23	45	67	89	111	133	155	177	199	·54	57	12	34	56	78	100	122	144	166	188	210	·54
8	1	23	45	67	89	111	133	155	177	199	·76	58	12	34	56	78	100	122	144	166	188	210	·76
9	1	23	45	67	89	111	133	155	177	199	·98	59	12	34	56	78	100	122	144	166	188	210	.98
10	2	24	46	68	90	112	134	156	178	200	·20	60	13	35	57	79	101	123	145	167	189	211	·20
11	2	24	46	68	90	112	134	156	178	200	·42	61	13	35	57	79	101	123	145	167	189	211	·42
12	2	24	46	68	90	112	134	156	178	200	·64	62	13	35	57	79	101	123	145	167	189	211	·64
13	2	24	46	68	90	112	134	156	178	200	·86	63	13	35	57	79	101	123	145	167	189	211	·86
14	3	25	47	69	91	113	135	157	179	201	·08	64	14	36	58	80	102	124	146	168	190	212	·08
15	3	25	47	69	91	113	135	157	179	201	·30	65	14	36	58	80	102	124	146	168	190	212	·30
16	3	25	47	69	91	113	135	157	179	201	·52	66	14	36	58	80	102	124	146	168	190	212	·52
17	3	25	47	69	91	113	135	157	179	201	·74	67	14	36	58	80	102	124	146	168	190	212	·74
18	3	25	47	69	91	113	135	157	179	201	·96	68	14	36	58	80	102	124	146	168	190	212	·96
19	4	26	48	70	92	114	136	158	180	202	·18	69	15	37	59	81	103	125	147	169	191	213	·18
20	4	26	48	70	92	114	136	158	180	202	·40	70	15	37	59	81	103	125	147	169	191	213	·40
21	4	26	48	70	92	114	136	158	180	202	·62	71	15	37	59	81	103	125	147	169	191	213	·62
22	4	26	48	70	92	114	136	158	180	202	·84	72	15	37	59	81	103	125	147	169	191	213	·84
23	5	27	49	71	93	115	137	159	181	203	·06	73	16	38	60	82	104	126	148	170	192	214	·06
24	5	27	49	71	93	115	137	159	181	203	·28	74	16	38	60	82	104	126	148	170	192	214	·28
25	5	27	49	71	93	115	137	159	181	203	·50	75	16	38	60	82	104	126	148	170	192	214	·50
26	5	27	49	71	93	115	137	159	181	203	·72	76	16	38	60	82	104	126	148	170	192	214	·72
27	5	27	49	71	93	115	137	159	181	203	·94	77	16	38	60	82	104	126	148	170	192	214	·94
28	6	28	50	72	94	116	138	160	182	204	·16	78	17	39	61	83	105	127	149	171	193	215	·16
29	6	28	50	72	94	116	138	160	182	204	·38	79	17	39	61	83	105	127	149	171	193	215	·38
30	6	28	50	72	94	116	138	160	182	204	·60	80	17	39	61	83	105	127	149	171	193	215	·60
31	6	28	50	72	94	116	138	160	182	204	·82	81	17	39	61	83	105	127	149	171	193	215	·82
32	7	29	51	73	95	117	139	161	183	205	·04	82	18	40	62	84	106	128	150	172	194	216	·04
33	7	29	51	73	95	117	139	161	183	205	·26	83	18	40	62	84	106	128	150	172	194	216	·26
34	7	29	51	73	95	117	139	161	183	205	·48	84	18	40	62	84	106	128	150	172	194	216	·48
35	7	29	51	73	95	117	139	161	183	205	·70	85	18	40	62	84	106	128	150	172	194	216	·70
36	7	29	51	73	95	117	139	161	183	205	·92	86	18	40	62	84	106	128	150	172	194	216	·92
37	8	30	52	74	96	118	140	162	184	206	·14	87	19	41	63	85	107	129	151	173	195	217	·14
38	8	30	52	74	96	118	140	162	184	206	·36	88	19	41	63	85	107	129	151	173	195	217	·36
39	8	30	52	74	96	118	140	162	184	206	·58	89	19	41	63	85	107	129	151	173	195	217	·58
40	8	30	52	74	96	118	140	162	184	206	·80	90	19	41	63	85	107	129	151	173	195	217	·80
41	9	31	53	75	97	119	141	163	185	207	·02	91	20	42	64	86	108	130	152	174	196	218	·02
42	9	31	53	75	97	119	141	163	185	207	·24	92	20	42	64	86	108	130	152	174	196	218	·24
43	9	31	53	75	97	119	141	163	185	207	·46	93	20	42	64	86	108	130	152	174	196	218	·46
44	9	31	53	75	97	119	141	163	185	207	·68	94	20	42	64	86	108	130	152	174	196	218	·68
45	9	31	53	75	97	119	141	163	185	207	·90	95	20	42	64	86	108	130	152	174	196	218	·90
46	10	32	54	76	98	120	142	164	186	208	·12	96	21	43	65	87	109	131	153	175	197	219	·12
47	10	32	54	76	98	120	142	164	186	208	·34	97	21	43	65	87	109	131	153	175	197	219	·34
48	10	32	54	76	98	120	142	164	186	208	·56	98	21	43	65	87	109	131	153	175	197	219	·56
49	10	32	54	76	98	120	142	164	186	208	·78	99	21	43	65	87	109	131	153	175	197	219	·78
50	11	33	55	77	99	121	143	165	187	209	·00	100	22	44	66	88	110	132	154	176	198	220	·00

TABLE III.—For converting Chains and Links into Feet and Decimals of Feet.

Links.	0 Chain.	1 Chain.	2 Chains.	3 Chains.	4 Chains.	5 Chains.	6 Chains.	7 Chains.	8 Chains.	9 Chains.	Dec. of Feet.	Links.	0 Chain.	1 Chain.	2 Chains.	3 Chains.	4 Chains.	5 Chains.	6 Chains.	7 Chains.	8 Chains.	9 Chains.	Dec. of Feet.
	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.			Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	
0	0	66	132	198	264	330	396	462	528	594	·00	50	33	99	165	231	297	363	429	495	561	627	·00
1	0	66	132	198	264	330	396	462	528	594	·66	51	33	99	165	231	297	363	429	495	561	627	·66
2	1	67	133	199	265	331	397	463	529	595	·32	52	34	100	166	232	298	364	430	496	562	628	·32
3	1	67	133	199	265	331	397	463	529	595	·98	53	34	100	166	232	298	364	430	496	562	628	·98
4	2	68	134	200	266	332	398	464	530	596	·64	54	35	101	167	233	299	365	431	497	563	629	·64
5	3	69	135	201	267	333	399	465	531	597	·30	55	36	102	168	234	300	366	432	498	564	630	·30
6	3	69	135	201	267	333	399	465	531	597	·96	56	36	102	168	234	300	366	432	498	564	630	·96
7	4	70	136	202	268	334	400	466	532	598	·62	57	37	103	169	235	301	367	433	499	565	631	·62
8	5	71	137	203	269	335	401	467	533	599	·28	58	38	104	170	236	302	368	434	500	566	632	·28
9	5	71	137	203	269	335	401	467	533	599	·94	59	38	104	170	236	302	368	434	500	566	632	·94
10	6	72	138	204	270	336	402	468	534	600	·60	60	39	105	171	237	303	369	435	501	567	633	·60
11	7	73	139	205	271	337	403	469	535	601	·26	61	40	106	172	238	304	370	436	502	568	634	·26
12	7	73	139	205	271	337	403	469	535	601	·92	62	40	106	172	238	304	370	436	502	568	634	·92
13	8	74	140	206	272	338	404	470	536	602	·58	63	41	107	173	239	305	371	437	503	569	635	·58
14	9	75	141	207	273	339	405	471	537	603	·24	64	42	108	174	240	306	372	438	504	570	636	·24
15	9	75	141	207	273	339	405	471	537	603	·90	65	42	108	174	240	306	372	438	504	570	636	·90
16	10	76	142	208	274	340	406	472	538	604	·56	66	43	109	175	241	307	373	439	505	571	637	·56
17	11	77	143	209	275	341	407	473	539	605	·22	67	44	110	176	242	308	374	440	506	572	638	·22
18	11	77	143	209	275	341	407	473	539	605	·88	68	44	110	176	242	308	374	440	506	572	638	·88
19	12	78	144	210	276	342	408	474	540	606	·54	69	45	111	177	243	309	375	441	507	573	639	·54
20	13	79	145	211	277	343	409	475	541	607	·20	70	46	112	178	244	310	376	442	508	574	640	·20
21	13	79	145	211	277	343	409	475	541	607	·86	71	46	112	178	244	310	376	442	508	574	640	·86
22	14	80	146	212	278	344	410	476	542	608	·52	72	47	113	179	245	311	377	443	509	575	641	·52
23	15	81	147	213	279	345	411	477	543	609	·18	73	48	114	180	246	312	378	444	510	576	642	·18
24	15	81	147	213	279	345	411	477	543	609	·84	74	48	114	180	246	312	378	444	510	576	642	.84
25	16	82	148	214	280	346	412	478	544	610	·50	75	49	115	181	247	313	379	445	511	577	643	.50
26	17	83	149	215	281	347	413	479	545	611	·16	76	50	116	182	248	314	380	446	512	578	644	·16
27	17	83	149	215	281	347	413	479	545	611	·82	77	50	116	182	248	314	380	446	512	578	644	·82
28	18	84	150	216	282	348	414	480	546	612	·48	78	51	117	183	249	315	381	447	513	579	645	·48
29	19	85	151	217	283	349	415	481	547	613	·14	79	52	118	184	250	316	382	448	514	580	646	·14
30	19	85	151	217	283	349	415	481	547	613	·80	80	52	118	184	250	316	382	448	514	580	646	·80
31	20	86	152	218	284	350	416	482	548	614	·46	81	53	119	185	251	317	383	449	515	581	647	·46
32	21	87	153	219	285	351	417	483	549	615	·12	82	54	120	186	252	318	384	450	516	582	648	·12
33	21	87	153	219	285	351	417	483	549	615	·78	83	54	120	186	252	318	384	450	516	582	648	·78
34	22	88	154	220	286	352	418	484	550	616	·44	84	55	121	187	253	319	385	451	517	583	649	·44
35	23	89	155	221	287	353	419	485	551	617	·10	85	56	122	188	254	320	386	452	518	584	650	·10
36	23	89	155	221	287	353	419	485	551	617	·76	86	56	122	188	254	320	386	452	518	584	650	·76
37	24	90	156	222	288	354	420	486	552	618	·42	87	57	123	189	255	321	387	453	519	585	651	·42
38	25	91	157	223	289	355	421	487	553	619	·08	88	58	124	190	256	322	388	454	520	586	652	·08
39	25	91	157	223	289	355	421	487	553	619	·74	89	58	124	190	256	322	388	454	520	586	652	·74
40	26	92	158	224	290	356	422	488	554	620	·40	90	59	125	191	257	323	389	455	521	587	653	·40
41	27	93	159	225	291	357	423	489	555	621	·06	91	60	126	192	258	324	390	456	522	588	654	·06
42	27	93	159	225	291	357	423	489	555	621	·72	92	60	126	192	258	324	390	456	522	588	654	·72
43	28	94	160	226	292	358	424	490	556	622	·38	93	61	127	193	259	325	391	457	523	589	655	·38
44	29	95	161	227	293	359	425	491	557	623	·04	94	62	128	194	260	326	392	458	524	590	656	·04
45	29	95	161	227	293	359	425	491	557	623	·70	95	62	128	194	260	326	392	458	524	590	656	·70
46	30	96	162	228	294	360	426	492	558	624	·36	96	63	129	195	261	327	393	459	525	591	657	·36
47	31	97	163	229	295	361	427	493	559	625	·02	97	64	130	196	262	328	394	460	526	592	658	·02
48	31	97	163	229	295	361	427	493	559	625	·68	98	64	130	196	262	328	394	460	526	592	658	·68
49	32	98	164	230	296	362	428	494	560	626	·34	99	65	131	197	263	329	395	461	527	593	659	·34
50	33	99	165	231	297	363	429	495	561	627	·00	100	66	132	198	264	330	396	462	528	594	660	·00

Table IV.

Showing the Length of a Degree, Minute, and Second, of Latitude and Longitude, for every Degree of the Quadrant, the Compression of the Earth being assumed $\frac{1}{304}$.

Dist. from Equator.	Latitude.			Longitude.			Dist. from Equator.	Latitude.			Longitude.		
	Lengths in Feet, of a							Lengths in Feet, of a					
	Degree.	Minute.	Second.	Degree.	Minute.	Second.		Degree.	Minute.	Second.	Degree.	Minute.	cond.
0°	362759	6046·0	100·76	365147	6085·8	101·43	45	364547	6075·8	101·26	258623	4310·4	71·84
1	362761	6046·0	100·76	365091	6084·8	101·41	46	364610	6076·8	101·27	254084	4234·7	70·58
2	362764	6046·1	100·77	364925	6082·1	101·37	47	364673	6077·9	101·29	249467	4157·8	69 30
3	362769	6046·2	100 77	364649	6077·5	101·29	48	364735	6078·9	101·31	244744	4079·1	67·99
4	362776	6046·4	100·77	364263	6071·0	101·18	49	364797	6079·9	101·32	240007	4000·1	66·67
5	362785	6046·4	100·77	363767	6062·8	101·05	50	364859	6081·0	101·34	235166	3919·4	65·32
6	362796	6046·6	100·77	363161	6052·7	100·88	51	364920	6082·0	101·36	230252	3837·5	63·96
7	362810	6046·8	100·77	362445	6040·7	100·68	52	364981	6083·0	101·38	225267	3754·4	62·57
8	362826	6047·1	100·78	361619	6027·0	100·45	53	365042	6084·0	101·40	220213	3670·2	61·17
9	362844	6047·4	100·78	360683	6011·4	100·19	54	365102	6085·0	101·41	215091	3584·8	59·75
10	362864	6047·7	100·79	359637	5994·0	99·90	55	365161	6086·0	101·42	209903	3498·4	58·31
11	362886	6048·1	100·79	358480	5974·7	99·58	56	365219	6087·0	101·44	203650	3394·2	56·57
12	362910	6048·5	100·80	357217	5953·6	99·23	57	365276	6087·9	101·46	198334	3305·6	55·09
13	362937	6048·9	100·81	355846	5930·8	98·85	58	365332	6088·9	101·48	192957	3215·9	53·60
14	362966	6049·4	100·82	354368	5906·1	98·44	59	365387	6089·8	101·50	187520	3125·3	52·09
15	362997	6049·9	100·83	352782	5879·7	97·99	60	365441	6090·7	101·52	183025	3050·4	50·84
16	363029	6050.5	100·84	351089	5851·5	97·53	61	365495	6091·6	101·53	177473	2957·9	49·30
17	363063	6051·0	100·85	349290	5821·5	97·02	62	365548	6092·5	101·55	171866	2864·4	47·74
18	363099	6051·6	100·86	347385	5789·7	96·50	63	365599	6093·3	101·56	166206	2770·1	46·17
19	363137	6052·3	100·87	345374	5756·2	95·94	64	365649	6094·1	101·57	160495	2674·9	44·58
20	363177	6052·9	100·88	343258	5721·0	95·35	65	365697	6094·9	101·58	154736	2578·9	42·98
21	363219	6053·6	100·89	341038	5684·0	94·73	66	365743	6095·7	101·59	148929	2482·1	41·37
22	363262	6054·4	100·91	338715	5645·2	94·09	67	365788	6096·5	101·60	143076	2384·6	39·74
23	363306	6055·1	100·92	336289	5604·8	93·41	68	365832	6097·2	101·61	137178	2286·3	38·10
24	363351	6055·8	100·93	333760	5562·7	92·71	69	365875	6097·9	101·63	131236	2187·3	36·45
25	363397	6056·6	100·94	331130	5518·8	91·98	70	365917	6098·6	101·64	125252	2087·5	34·79
26	363445	6057·4	100·96	328400	5473·3	91·22	71	365957	6099·3	101·65	119229	1987·1	33·12
27	363495	6058·2	100·97	325570	5426·2	90·44	72	365995	6099·9	101·66	113171	1886·2	31·44
28	363546	6059·1	100·98	322641	5377·3	89·62	73	366032	6100·5	101·67	107079	1784·6	29·74
29	363599	6060·0	100 99	319613	5326·9	88·78	74	366065	6101·1	101·68	100954	1682·6	28·04
30	363653	6060·9	101·01	316487	5274·8	87·91	75	366097	6101·6	101·69	94798	1580·0	26·33
31	363707	6061·8	101·02	313265	5221·1	87·02	76	366128	6102·1	101·71	88613	1476·9	24·61
32	363762	6062·7	101·03	309948	5165·8	86·10	77	366157	6102·6	101·71	82400	1373·3	22·89
33	363818	6063·6	101·05	306537	5108·9	85·15	78	366184	6103·1	101·72	76162	1269·4	21·16
34	363875	6064·6	101·07	303032	5050·5	84·17	79	366208	6103·5	101·72	69900	1165·0	19·42
35	363933	6065·5	101·09	299435	4990·6	83·18	80	366230	6103·8	101·73	63616	1060·3	17·67
36	363992	6066·5	101·10	295746	4929·1	82·15	81	366250	6104·2	101·73	57310	955·2	15·92
37	364052	6067·5	101·11	291966	4866·1	81·10	82	366268	6104·5	101·74	50986	849·8	14·16
38	364113	6068·5	101·13	288098	4801·6	80·03	83	366284	6104·7	101·74	44646	744·1	12·40
39	364174	6069·6	101·15	284142	4735·7	78·93	84	366298	6105·0	101·75	38293	638·2	10·64
40	364235	6070·6	101·17	280098	4668·3	77·80	85	366309	6105·1	101·75	31929	532·1	8·87
41	364297	6071·6	101·19	275969	4599·5	76·66	86	366318	6105·3	101·75	25555	426·0	7·10
42	364359	6072·6	101·21	271756	4529·3	75·49	87	366325	6105·4	101·75	19173	319·5	5·33
43	364421	6073·7	101·22	267460	4457·7	74·29	88	366330	6105·5	101·76	12785	213·1	3·55
44	364484	6074·7	101·24	263082	4384·7	73·08	89	366333	6105·6	101·76	6393	106·5	1·78
45	364547	6075·8	101·26	258623	4310·4	71·84	90	366335	6105·6	101·76	0	0·	0·

Note.—The degrees of latitude are calculated for the latitudes of their middle points.

Table V.—The Relative Values of Perpendicular and Base to Hypotenuse 1° in a Right-angled Spherical Triangle; also the Differences of Latitude, and the Departures corresponding thereto, and as shown by the Tables; with the Tabular Error, &c. all in Feet, for every 5th Deg. of the Quadrant.

	Values of Arcs or Sides of Right-angled Spherical Triangles.					Diff. of Lat. and Dep. for Dist. 1°=364547 feet.				Tabular Error.		Fractional Error, or Tabular Multipliers, to be applied for Correcting the Traverses by the Tables.	
Bearing.	Hyp.	Perpendicular.		Base.		By Spherical Trigonometry.		By the Traverse Tables.					
°	°	′	″	′	″	Latitude.	Departure.	Latitude.	Departure.	Latitude.	Departure.	Latitude.	Departure.
5	1	59	46·304	05	13·737	363160·09	31769·92	363159·29	31771·60	− 0·80	+ 1·68		−·0000529
10	1	59	05·319	10	25·103	359009·83	63299·81	359008·31	63302·36	− 1·52	+ 2·55		−·0000403
15	1	57	57·357	15	31·704	352127·78	94347·14	352124·56	94350·94	− 3·22	+ 3·80	+·0000091	−·0000403
20	1	56	22·934	20	31·217	342566·23	124676·84	342561·29	124682·37	− 4·94	+ 5·53	+·0000144	−·0000443
25	1	54	22·767	25	21·362	330397·75	154057·81	330391·37	154063·64	− 6·38	+ 5·83	+·0000193	−·0000313
30	1	51	57·770	29	59·931	315714·90	182266·53	315706·31	182273·50	− 8·59	+ 6·97	+·0000272	−·0000382
35	1	49	09·046	34	24·790	298629·40	209086·94	298618·77	209094·55	−10·63	+ 7·61	+·0000356	−·0000364
40	1	45	57·876	38	33·966	279270·94	234319·26	279258·79	234325·96	−12·15	+ 6·70	+·0000435	−·0000286
45	1	45	25·714	45	25·520	257786·76	257767·13	257773·60	257773·60	−13·16	+ 6·47	+·0000510	−·0000250
50	1	38	34·173	45	57·702	234340·23	279253·35	234325·96	279258·79	−14·27	+ 5·44	+·0000609	−·0000195
55	1	34	25·016	49	08·898	209109·83	248614·42	209094·55	298618·77	−15·28	+ 4·35	+·0000737	−·0000146
60	1	30	00·137	51	57·651	182287·37	315702·94	182273·50	315706·31	−13·87	+ 3·37	+·0000761	−·0000107
65	1	25	21·553	54	22·678	154077·10	330388·73	154063·64	330391·37	−13·46	+ 2·64	+·0000874	−·0000080
70	1	20	31·383	56	22·873	124693·60	342560·05	124682·37	342561·29	−11·23	+ 1·24	+·0000901	−·0000036
75	1	15	31·837	57	57·321	94360·66	342124·14	94350·94	352124·56	− 9·72	+ 0·42	+·0001030	
80	1	10	25·195	59	05·303	63309·25	359008·21	63302·36	359008·31	− 6·89	+ 0·10	+·0001088	
85	1	05	13·792	59	46·299	31775·59	363159·58	31771·60	363159·29	− 3·99	− 0·29	+·0001279	

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Table VI.—Shewing the Differences of Latitude and the Departures for Distances equal to 05′, 10′...30′, and 40′, both by Spherical Trigonometry and by the Tables, the Bearing remaining the same; also the Tabular Error for each Traverse.

Bearing, 27° 45′.	Distance 05′ Feet . . 30378·92 Miles . . 5·7536		Distance 10′ Feet . . 60757·83 Miles . . 11·5073		Distance 15′ Feet . . 91136·75 Miles . 17·2609		Distance 20′ Feet . 121515·67 Miles. 23·0145		Distance 25′ Feet . 151894·58 Miles. 28·7681		Distance 30′ Feet . 182273·5 Miles . 34·5217		Distance 40′ Feet . 243031 33 Miles . 46·029	
	Latitude.	Departure.	Latitude.	Departure.	Latitude.	Departure.	Latitude.	Departure.	Latitude.	Departure.	Latitude.	Departure.	Latitude.	Departure.
By Sphr. Trigonom. .	26929·821	14168·356	53859·602	28336·764	80789·443	42505·121	107719·373	56673·449	134649·380	70841·723	161579·496	85009·692	215440·406	113345·211
By the Tables . . .	26929·745	14168·404	53859·492	28336·808	80789·236	42505·213	107718·982	56673·617	134648·727	70842·021	161578·473	85010·426	215437·964	113347·234
Tabular Error . . .	− ·076	+ ·048	− ·110	+ ·044	− ·207	+ ·092	− ·391	+ ·168	− ·653	+ ·298	− 1·023	+ ·734	− 2·442	+ 2·023

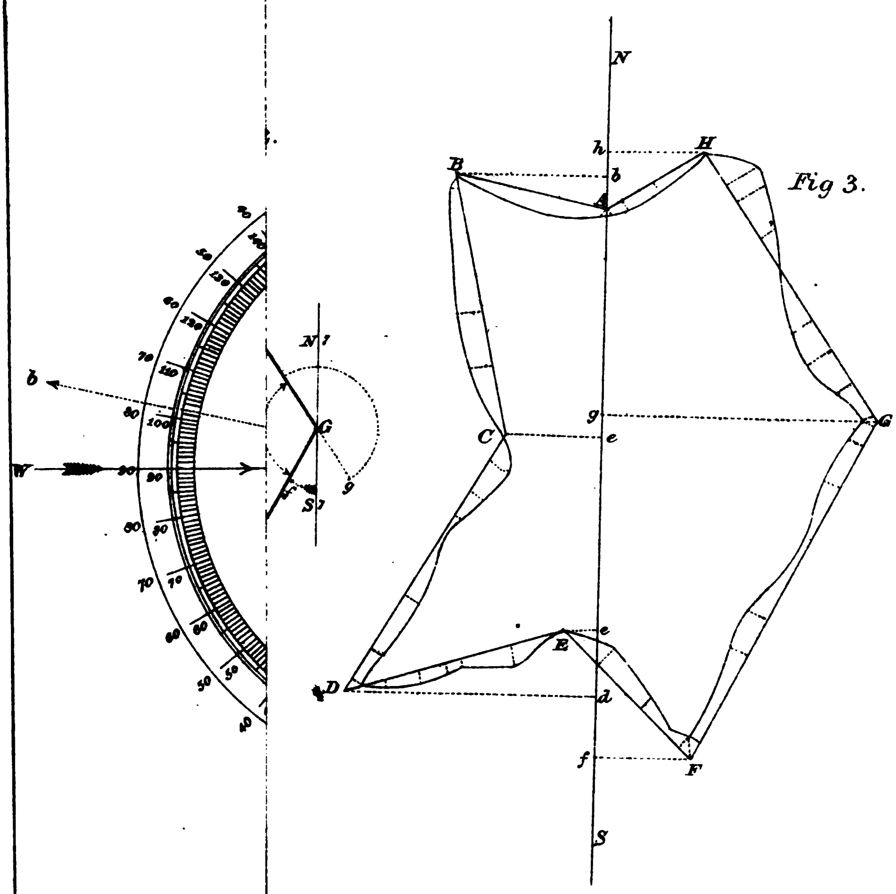
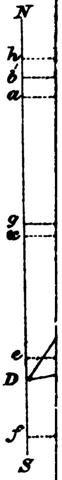


Fig 3.



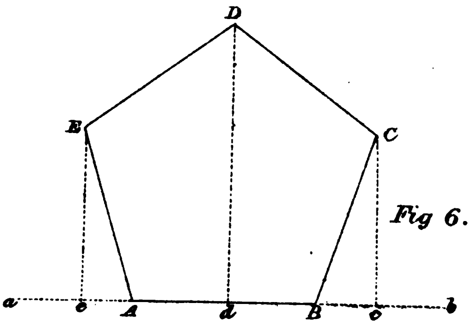


Fig 6.

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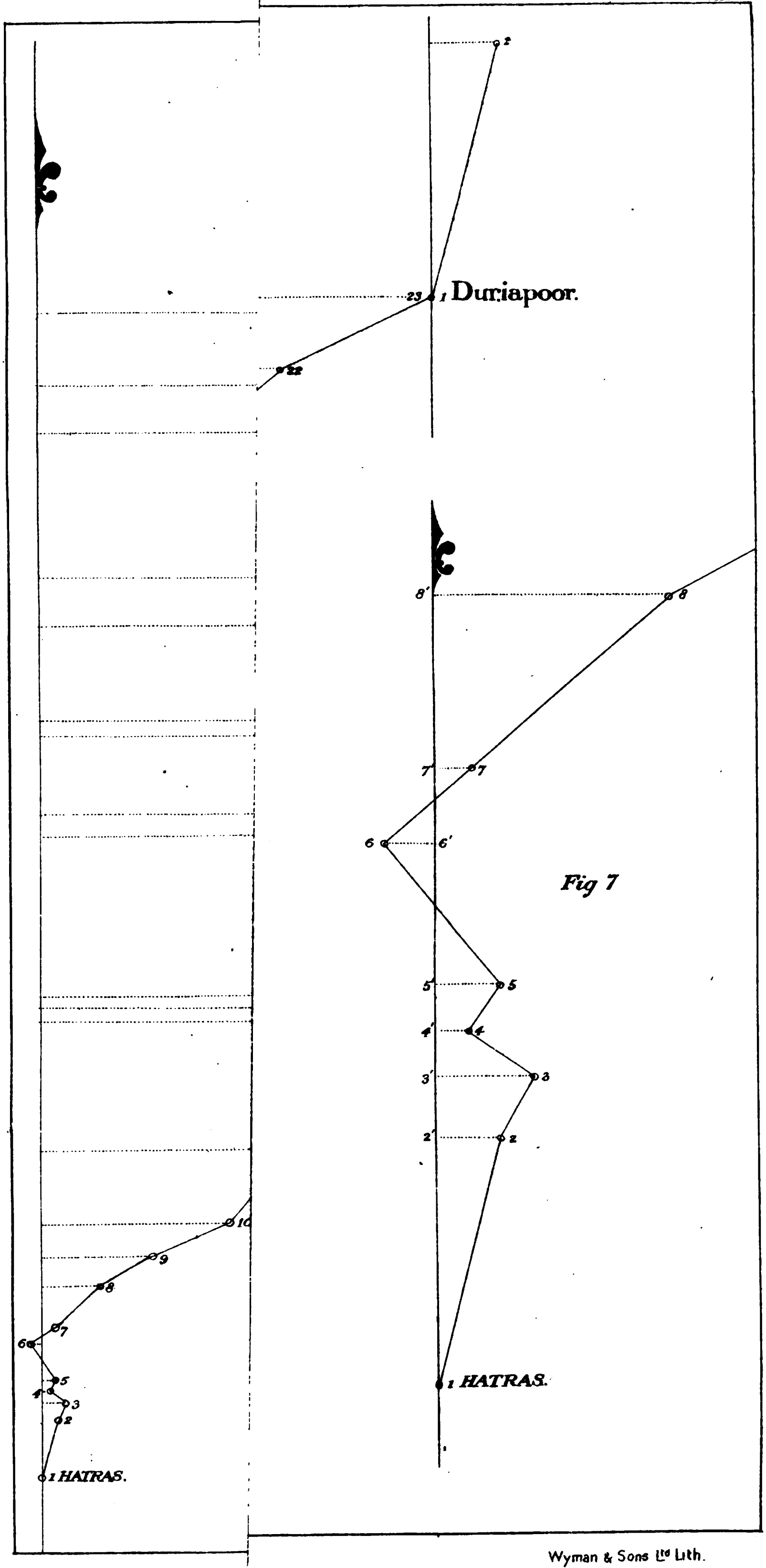

Fig 7

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Plate III.

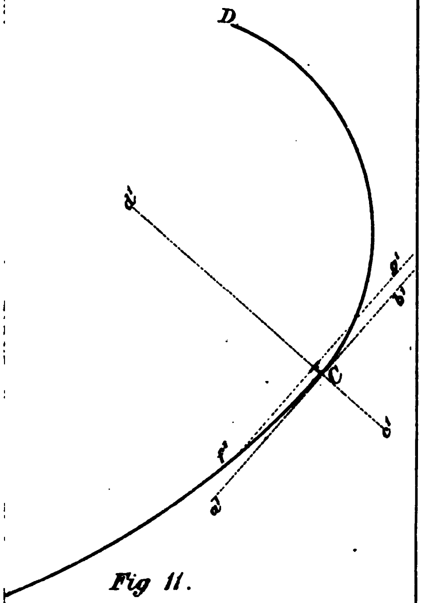

Fig 11.

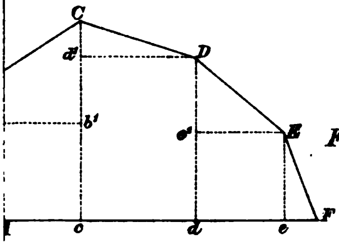

Fig 12.

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